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In the Land of Lost Playbills, **BUXOM JOAN** has its own small corner. Aberdeen University music department has unearthed the 18th century work, unseen since its last performance in 1779. Olga Wojtas dodges the orange peel (page 12)

Gamekeeper turned poacher: after six years on the UGC, Dr **GORDON HIGGINSON** has just completed his first term as vice chancellor of Southampton University. He talks to Peter Aspin about the change of role (page 12)



DIY in the making: Karen Gold sits in on Sheffield Polytechnic's validation experiment (page 13)

Little brother, big ideas: in the latest of our series on south-east Asia, John Belcher visits the universities of **TAIWAN**, where size and neighbours have not stunted ambitions (page 14)

KEYWORDS: Julien Benda's *Le Trahison des Clercs* falls into that class of books which are much cited but rarely read. Douglas Johnson looks beyond the title and assesses Benda's contemporary significance (page 16)

"It is difficult to be an American." **THORNTON WILDER** paid a peculiarly American price for a peculiarly American success. Today his critical stock is low. However, as Dennis Welland discovers, the playwright's journals reveal a more complex figure (page 17)

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NEW WEEK

David J. Levy on Anthony Giddens
Union democracy
Profile of John Maynard Smith

Training the teachers

So far most of the comment on the row between the National Advisory Body and the Department of Education and Science (well, most of it) about teacher training has concentrated on the consequences for the NAB and so for public sector higher education as a whole. Rather little comment has been devoted to the consequences of this disagreement for teacher education.

This imbalance of interest can be understood although not approved. The clash between the NAB and the DES has been a fast-moving drama. First the NAB board rejected the rationalization proposals made by its own teacher education group, and this rejection was confirmed by the committee. In this toned-down form, the Secretary of State for Education and Science, announced to a proposal to close a single college, Hertfordshire, although considerable juggling of student intakes was also recommended. Next, Sir Keith Joseph, the NAB's advice to Sir Keith Joseph, the Secretary of State for Education and Science, amounted to a proposal to close a single college, Hertfordshire, although considerable juggling of student intakes was also recommended.

An interesting question is whether the DES and the NAB stumbled into this disagreement or whether one or other of them was pushed, and if so by whom? There are people in the NAB who believe that Sir Keith is guilty of a semi-constitutional impropriety in rejecting its advice. They suspect that he has been influenced by an unholy alliance of party politicians, elected and unelected, official and unofficial, who are fed up with the NAB criticizing the Government and of DES civil servants and TIM inspectors who still hanker after direct rule of the polytechnics and major colleges.

On the other side there are people in the DES who have been highly irritated by the comments of some members of the NAB committee which sheds little new light on the prospects for higher education in the remainder of this decade. A bright new presentation of the autumn spending statement that there are hard times ahead, but the highly provisional nature of the forecasts and the practice of expressing everything in cash terms make the information almost meaningless.

A matter of days before the publication of the White Paper, Sir David Hancock, permanent secretary at the DES, was stressing publicly that there was "everything to play for" in setting future higher education budgets. There was uncertainty about both student demand and the Government's

policy, but they intend to embrace the Conservative Government by cutting student intakes in the build-up to the next election. They also suspect that the NAB is losing what limited taste it had for tackling the essential job of rationalization, and has been seduced by a much softer role as a posturing lobbyist for the polytechnics and colleges.

So both sides have a good tale to tell. In both cases there is a central conspiracy - the determination of ministers to reduce the NAB to subordinate and administrative role, and the alleged politicization of a NAB some equal paranoia potential - the more prominent being the secret struggle between different branches of the DES, and between the DES and the education for control of teacher too lurid. The present chill between the DES and the NAB is more likely to have been the result of an accumulation of accidents rather than a calculated conspiracy.

At the root of the argument between the NAB and the DES is a difference of opinion about teacher education. The NAB view is that the future of teacher education is bound up inextricably with the future of the public sector of higher education as a whole, and their advice will damage teacher education not simply because it has the only available and feasible planning instrument, but because the premature and uncoordinated rationalization of teacher education is against the subject's own long-term interest.

This is a persuasive view. For many smaller colleges teacher education is the dominant planning issue. Yet often directly embroiled in much wider policy arguments about academic viability, the desirability of diversification, the balance between dispersal and concentration, the best pattern of funding, all the issues that the NAB has to engage. Sir Keith's planning of teacher education is integral to the planning of the polytechnics and colleges as a whole.

The other view, which is held in many but not all parts of the DES, is that teacher education is special. It has

such a large part to play in improving the quality of teachers in schools that its planning cannot be ruled by higher education considerations alone. The Keith Joseph plan for reading his speeches and the White Paper *Better Schools*. Almost as well known is his dislike of bodies dominated by "them", the producers, like the former Advisory Council for the Education and Training of Teachers, and his enthusiasm for ones dominated by "us", the consumers, like the new Teacher Education. So those who argue that teachers education is too important to be treated as a second-order issue in a planning system dominated by the house-trading of more influential academic and professional interests have found a ready listener in the Secretary of State.

The choice therefore is between a teacher education system that is planned in increasingly close association with the rest of public sector higher education and under the aegis of a consensual NAB, and one that continues to be regarded as a special case and is directed centrally by the DES. There are two difficulties with this second course. The first is that at the end of the day the two planning systems of public sector higher education by the DES, have to come together. Except in the case of the few remaining monothematic colleges of education in institutions that have wider purposes. The centralist separatists in the DES have yet to come to terms with this paradox: they want teacher education to be provided in institutions that are viable in terms of resources and of academic quality but wish it to be planned separately from other subjects.

The second difficulty is that the separatist solution has been tried and it has not worked. It has led to institutional instability and contributed to the decline of academic and professional standards. The lesson is as plain as it was in 1982: the best way to raise standards in teacher education is to move it into the mainstream of higher education. The NAB's maybe teacher education approach to rationalizing that hard-learned lesson.

Advisory Body, yet ministers and civil servants alike have been busy trying to head off precipitate action ahead of this year's Treasury negotiations. No government commits itself to detailed expenditure further ahead than necessary: planning even two years on is bound to be provisional. But the present system has degenerated to an indefensible degree. Higher education is just one of the public sector activities which, through no fault of its own, has a long lead time and needs a planning horizon to realize the Government claims, the abandonment of planning in real terms makes comparisons conveniently difficult and invites the very inefficiency ministers so regularly condemn.

efforts that are put into their initial recruitment. Sometimes disasters happen that cannot be foreseen. Wars, revolutions, debt crises affect the capacity of students to pay their fees and support themselves. A valuable guide to good practice in such cases of hardship is provided in a new report from the UK Council for Overseas Student Affairs, *Containing Crisis*. UKCOSA can be more generally applied. In cases of emergency overseas students are plunged into acute difficulty. But such difficulty is a chronic form is the common experience of many overseas students in Britain today.

Overseas students at risk

the economy of many institutions, and they represent will grow as university and polytechnic budgets continue to be now devoted to the recruitment of overseas students.

Caught in the middle of course are overseas students themselves. Encouraged to come and study in Britain of their resources, they are inevitably drawn into the financial pressures. Although much attention is now paid to counselling overseas students in many institutions, it needs to be firmly recognized that more effective support for overseas students in Britain is a necessary corollary of the great

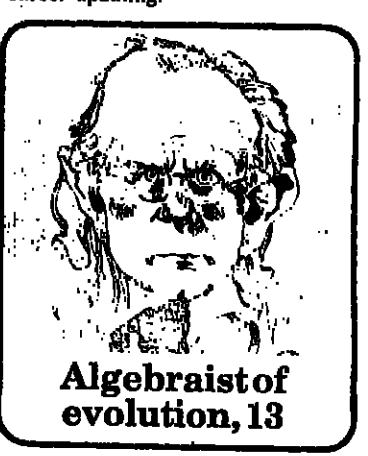
And the squeeze, says CBI

business and industry has appealed the Government to end its squeeze on higher education. In their responses to last year's Green Paper both the Confederation and the British Industry and the Standing Conference of Employers of Graduate Engineers take issue with fundamental points of Government policy, although absolute evidence, developing efforts to change the emphasis of higher education and increase its effectiveness.

The CBI urges the Government to use the promised White Paper on higher education to make "a clear and And yet, you'd agree, positive statement of policy, supported by the universities by level funding in real terms for the period up to 1995". Further cuts would be harmful as a result of the "brain drain" of lecturers and damage institutions.

Lecturers' morale is at an all-time low, the CBI warns, and staff are increasingly moving to better-paid jobs elsewhere. Differential rewards, recognizing talent, experience and ability, are needed to reverse the trend. The Government's response also casts doubt on the accuracy of Government projections of falling student demand. Both the CBI and SCOEG believe that future numbers have been seriously underestimated.

Both organizations welcome the Government's emphasis on technical subjects and its insistence that higher education should become more relevant to economic needs. But they are alarmed at the scope of the proposed cuts in the Green Paper will promote these objectives. In particular, both are concerned at the shortage of teachers of mathematics and physics in schools, and blame uncompetitive salaries and poor resources. The 350 graduate employers represented by SCOEG also oppose "the pursuit of 'relevance' in courses which by their nature cannot be made directly relevant to careers in business and industry". They argue instead for all students to be trained in transferable social skills, courses to be broadened, vacation placements to be encouraged and postgraduate courses used as the accepted method of providing career updating.



Algebraist of evolution, 13

Staffing plans may be coloured by Hancock row

by David Jobbins
Ministers are considering whether to bring forward plans for a new redundancy scheme for university lecturers and introduce a "new blood" scheme next year. But their decision, due to be announced in a White Paper later this year, will be affected by the outcome of a constitutional row between the Department of Education and Science and the powerful House of Commons Public Accounts Committee over an investigation into redundancy scheme introduced as part of the post-1981 cuts.

Sir David Hancock, permanent secretary at the DES, suffered an unprecedented mauling at the hands of the committee when he refused to accept criticisms of his department's approach to the scheme, which cost a total of £238 million and led to 47 per cent more academics taking redundancy than previously estimated.

The decision was taken last week at a meeting of the University Grants Committee, the National Advisory Body, the Wales Advisory Body and the Scottish Tertiary Education Advisory Council - the first time the bodies met together. Also present were officials from the Confederation of British Industries, the Department of Education and Science and the Scottish Education Department.

A letter signed by the four chairmen will make three main points: that Government funding will be insufficient to meet the demand for places next year, that the wrong students are coming forward (more arts and social sciences and than science and engineering) and that there will be a critical shortage of teachers in mathematics, physics and craft and design technology. The chairmen estimate there will be a shortfall of between 7,000 and 10,000 places each year in 1987-1988 and 1989. They will tell their respective ministers that they have an obligation not to turn away thousands of well-qualified applicants.

The chairmen will question the validity of the latest projections by the DES, which foresee dramatic falls in demand for places in arts, humanities and social sciences, but none in medicine, initial teacher training, science or engineering. If planning continues on this basis, they fear that there will be empty places in science and engineering, while well-qualified applicants have to be turned away from other courses. Their letter will include estimates of

He was ordered to return to a later hearing, probably after Easter, with a clear indication of the department's views of the scheme's effectiveness.

The report, by the National Audit Office, conceded that the overall financial objectives of the Government's plan to reduce university spending had been achieved. But it pointed out that the limited scope for selectivity meant that jobs went in areas that were supposed to be protected.

In a session described by the PAC's clerk, Mr John Rose, as unique in his recollection, Sir David repeatedly declined to accept some parts of a report detailing an investigation into the scheme by the National Audit Office. The report, which suggested the DES retained inactive despite warnings from the University Grants Committee that the cuts were bound to lead to "disorder and disengagement" in the universities, had been the subject of discussions between the DES and the Auditor and Comptroller General, Sir Gordon Downey.

unstaffed demand in 1987/88 which will set the pattern for future years. Despite Government policy to switch the emphasis to science and engineering, the two subjects are getting home to the students. In the universities in the last three years, applications have been dropping in science, holding steady in the languages, and increasing in the social sciences and humanities.

Last week's meeting was called to discuss the division of students between the universities and the public sector. The DES tabled new projections of student demand, giving for the first time a breakdown of subject areas. Although the debate had been intended to cover plans for the rest of the century, it was agreed that there were too many uncertainties to make accurate assessments of demand in the 1990s. The planners' concerns were for the next three years.

One of the participants said later: "I wish we could persuade Sir Keith that you can't tell somebody who is committed to arts A levels to change overnight. Everyone felt that the country could not afford not to offer higher education to able students who are not qualified for science."

In its submission, the National Advisory Body based projections of student numbers at English polytechnics and colleges on the maintenance of existing funding levels. Its representatives repeated their calculation, already brought to the attention of Sir Keith, that some 18,000 qualified students would be turned away from public sector institutions in 1987 as a result.

Although increased enrolments in the universities and Scottish colleges should have the expected shortfall, it will be the institutions under the

But differences between the two only emerged at the hearing, to the fury of PAC chairman, former Labour Treasury minister, Mr Robert Sheldon.

Sir Gordon suggested that the DES had failed to abide by conventions governing the disclosure of relevant evidence to his investigators. Sir David was not able to enlarge on his figures suggesting that the imbalance between subject areas was not as serious as had been feared before a visibly angry Mr Sheldon adjourned the hearing.

The DES this week declined again to disclose the figures, referring inquiries to the UGC. It was suggested that the shortfall in areas such as engineering were being made up by posts funded from non-UGC sources.

Ministers are under pressure to provide money for a scheme with a longer timescale to ensure that staffing decisions are made in line with academic plans agreed with the UGC.

Hancock under fire, page 8



Joint demand for rethink on student places

by Ngalo Croquer and John O'Leary

The heads of the four planning bodies for higher education are to make an unprecedented joint approach to education ministers over the blueprint for the future size and shape of the student population.

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unstaffed demand in 1987/88 which will set the pattern for future years. Despite Government policy to switch the emphasis to science and engineering, the two subjects are getting home to the students. In the universities in the last three years, applications have been dropping in science, holding steady in the languages, and increasing in the social sciences and humanities.

Father's day successfully negotiated

by Felicity Jones

Father and daughter were both present at the graduation award ceremony at the Polytechnic of North London but it was touch and go whether they were going to be there at the same time.

Mr Clive Jenkins, general secretary of the Association of Scientific, Technical and Managerial Staffs, was guest speaker at the morning session of the ceremony but his daughter Bronwen received her degree in modern studies in the afternoon.

Bronwen wanted to receive her award along with her fellow students so her father returned in the afternoon to be present for the occasion.

As a member of the Sheila Browne Inquiry into administration at the polytechnic, he spoke in defence of a higher education system which is under attack, complimenting the afternoon speaker Mr John Bevan, secretary of the National Advisory Body.

The Medical Research Council is considering a massive rationalization of its clinical research work, including the possible run-down of the Clinical Research Centre in Middlesbrough.

A full-scale review of the MRC's clinical research, by a group led by Sir Michael Stoker, was due to go before a council meeting yesterday. Sources close to MRC headquarters say the review is expected to recommend amalgamating the council's two main centres for clinical work - the CRC itself and the Royal Postgraduate Medical School at Hammersmith.

The review does not indicate how this should be carried through, but recent heavy capital commitments at Hammersmith may mean the £10 million a year Clinical Research Centre is the more vulnerable.

The CRC, opened in 1970, has faced criticisms that much of its work is not up to the standards of the basic biological research of other MRC establishments. Its current director, Sir Christopher Booth, is due to retire in three years, so the council must decide its future soon.

Sir Michael Stoker's report will argue that a council facing gradual erosion of its budget cannot afford to maintain two major centres of clinical research a few miles apart in London. The Royal Postgraduate Medical School is part of London University. The Clinical Research Centre is the MRC's most expensive institution, with its annual costs approached only by the National Institute for Medical Research at Mill Hill. It was designed as an integral part of the Northwick Park district general hospital, and any decision would mean lengthy negotiations with the health authorities.

Staff at the CRC are due to learn the review's findings today.



One of the milder but memorable pleasures of the year is getting to grips with the annual Abstract of Statistics which provides ample material for lectures and articles and after dinner speeches. I have never yet found the table said to be entitled *The Population of the British Isles broken down by Age and Sex*, but there is plenty of other colourful information.

Social Trends 16 has just been published, which brings us up to 1984 and the state of the nation in that year seems to have been the usual mixture of gloom and moderate happiness. There was more crime in 1984 than there was 20 years ago, especially burglaries and thefts, which does not seem surprising. Despite that we seem to be becoming grander.

Two out of five of us regard ourselves as middle class, which shows that we are quickly becoming a better class of person. That is confirmed by the fact that one in three of us think that we are in a higher social class than our parents. That, of course, must be one of the side effects of education, especially higher education. I assume that whatever class you belong to before you arrive at a university or polytechnic, you are thoroughly middle class by the time you leave.

But in any case we are better off than we used to be. Someone has calculated that it takes the average man only 2 hours 16 minutes to earn enough money to buy a bottle of whisky, whereas as recently as ten years ago it took 4 hours 17 minutes. It may be that the average man is buying some very inferior whisky. I cannot pretend that I think of the number of hours I have worked when I finish the bottle.

With or without the effects of the whisky, 38 per cent of men are overweight whereas only 32 per cent of women are, which surprised me. But it is an alarming figure (in more ways than one) and we ought to do something about it. Even so our expectation of life is going up, as a result of which there are more lonely old people living on their own than ever before. It surprised me also that 30 per cent of women have none of their own teeth. I was told years ago by my relatives in far away rainy Ireland that you should always check that your girl friend had got her false teeth before you married her because of the cost later.

Since in winter time men watch more than 26 hours of television a week and women more than 31 hours, we must be enjoying unprecedented leisure; it is only a few years, if I remember rightly, since both were watching less than 21 hours. Whether we are any happier than our elders is not revealed by the figures.

Meanwhile, while I have been thinking of these interesting facts, Industry Year has got off to a good if not dramatic start. One of the more satisfying items is a travelling exhibition called *Profit by Design*, organized by the Design Council on behalf of the Department of Trade and Industry, now in Leeds Polytechnic but due to visit much of the country. It is satisfying because its message is as simple and clear as its title. The exhibits, illustrations and descriptions of a variety of artefacts from refrigerated vehicles to a pendant that enables elderly people to summon help, have this in common—that they were the result of design which might not have happened without government support. The lesson is clear. Whether educated members of the upper classes will one day wake up to the crucial importance of *Design* is not.

Patrick Nuttgens

Letters to the editor

Drawing the line at social services

Sir, — It is hard to say anything on the question of whether or not social studies should be called social sciences without falling into the basic error of supposing this is of real importance. To do so is to accept and foster the view that the whole range of academic studies can be reduced to two contrasted categories, science and the humanities. This crude dichotomy grew out of the idolatry of science characteristic of the Victorian era (which is doubtless why it appears contemporary to the Thackerays). It is usually accompanied by a value judgement that science is strong and good, and everything else weak and worthless.

In reality, though, there is a continuum of academic studies running from the hardest of the sciences to the softest of the arts. There is no point at which a line can be drawn to establish a clear dichotomy of white and black. While it is true that the harder disciplines are notably less fallible than the softer, it is far more important to recognize the shared fallibility of all human cognitive endeavours. In recognizing differences of degree we should not lose sight of more basic similarities.

The claim that social studies are sciences has too often been made in a spirit of scientific hubris, and still more often understood in that sense. So it seems to me better to be content with the more modest term "social studies". But is Sir Peter Swinnerton-Dyer right to suggest that there is no reason for distinguishing these from the rest of the humanities? In one sense he is, since the links between different kinds of social studies are surely no stronger than those which link each of them to other subjects outside this grouping. But if the consequence is to dissolve the social studies in the huge category of the humanities, he is surely wrong. A dichotomous categorization of studies tends to sustain Victorian errors which should rather be laid to rest. Social studies should be recognized as a separate grouping simply because a plurality of groupings is a better mapping of the actual continuum than any dichotomy could be.

Yours sincerely,
MARTIN SOUTHWOLD,
Department of Social Anthropology,
University of Manchester.

Sir, — Sir Peter Swinnerton-Dyer, in his remarks to the Association of Learned Societies in the Social Sciences, is reported to have said that "social scientists have still to answer the question of whether taxpayers' money is usefully spent on their subjects". It would be more accurate to say that we have answered the question, repeatedly, in the affirmative, but Westminster and Whitehall, having made up their minds, are still listening (social scientists call this problem "cognitive dissonance").

To take a rather obvious example, a better understanding in Whitehall in 1982 of military politics in Argentina might have saved the taxpayer the entire running costs of all our universities for several years. We could have cut funds for Latin American studies in the early 1970s and it was "well known" in Whitehall that Argentina would not do anything so foolish as to go to war.

The more worrying suggestion is that Sir Peter does not understand the difference between the humanities and the social sciences. It is not a difficult thing to understand. The humanities are concerned with the description and

analysis of textual evidence and a few works in context. The scientist is concerned with formal hypotheses about social events, lecturing data on a systematic basis by testing those hypotheses by up a body of theoretical knowledge which will enable us to have a good understanding of such events in the future. We are well aware of problems. Those of us who do this of thing do not do it because it is but because it is one of the great intellectual challenges of our time.

Why should we "lie low" if it makes it so much easier for post graduate students? Why should we take his advice on a subject which he has just admitted he does not understand the fundamental principles? By suggesting that we should try to apply the scientific method to social sciences, he is not giving us political advice, he is suggesting we should try to preserve our subject by abandoning the purpose for which they exist.

Yours etc,
PETER CALVERT,
Professor of Comparative and International Politics,
University of Southampton.

unintended implication of Mr Thody's article that Oxbridge dominance among successful candidates is "natural". It is not, it is the social product of a selection process hallowed by tradition.

The competition is fierce, but much less so, taking that of applicants in 1985, than it was in 1984. One of the candidates who was successful only 1 per cent of the time in 1984, was successful in 1985.

In 1984, only one in eight applicants were studying at technology, while the others were 2 per cent of the total. I am not sure that the quality of the applicants is as good as it was in 1984. The quality of the applicants is as good as it was in 1984. The quality of the applicants is as good as it was in 1984.

Yours sincerely,
MARTIN BULMER,
Department of Social Administration, ISE.

Letters for publication should be sent to the editor, The Times Higher Education Supplement, 1, The Quadrant, London WC2N 6JF. The editor reserves the right to cut or amend as necessary.

Sir Alec's legacy

Sir, — If those of fortune be bereft And of their earthly store hath left Two loaves, sell one, and with the dole Buy hyacinths to feed the soul.

The sad news of Sir Alec Clegg's death deserves special mention.

Sir Alec will be remembered for so much that is positive about postwar educational development that his use of the above quotation is but one reminder of his enthusiastic commitment and practical wisdom. As recently as 1980 his book *About our Schools* called for emphasis not only on the intellectual but also on the spiritual, moral and aesthetic aspects of education. Thankfully such qualities are now being taught in the West Riding of Yorkshire from 1984-1987.

In Sir Alec's terms if measurement, accountability, and blind obedience to the "basics" were all that mattered few would get beyond the leaves. But if things of the spirit, the qualities of personality and the realization of self are seen as important, then learning environments will gather the hyacinths.

Bretton Hall is but one proud reminder of the numerous educational endeavours he so successfully helped to found and sustain. Sir



Alec's own collection of child art recently presented to the national art education archive housed at Bretton Hall underlines so much of the spirit and purpose of a man who will be long remembered for valuing the hyacinths alongside the leaves.

Yours faithfully,
JOHN L. TAYLOR,
Principal,
Bretton Hall,
West Yorkshire.

A don is . . .

Sir, — I am most grateful to David Head (*THES*, Letters, January 17) for providing me with more data on the subject of the comparative presentation of academics in the media. My failure to mention Indiana Jones was a serious informational gap and one which, I should perhaps add, has been filled on several occasions over the last weeks by my immediate colleagues. For reasons which I can only guess at, the scene in which one of Professor Jones's students gazes rapturously at her mentor with "Love you" on her eyelids has imprinted itself indelibly on their imaginations.

At the same time, I have to admit that, at first sight, Jerry Lewis's *Nutty Professor* seems seriously to damage my general thesis. However, if one

compares that film with Benny Hill's unforgettable performance in the British film *The Italian Job* as a mad (and criminal) computer scientist with a penchant for large ladies and their nether garments, then the day is saved. Where the latter character stays mad and, seeking oral gratification, ends up by being arrested, the former character redeems himself (he turns into an academic Rambo) by virtue of scientific research — "Je kyil, donc je suis!" What greater validation could our profession require?

But perhaps even more tellingly, when Michael Caine played a (naturalized) American academic in *Killer Bees*, he was lean, terse, decisive, commanding, and independent-minded. He was even permitted, on several occasions, to give orders to a general and in the end, it was his plan which saved the USA (culture) from

annihilation by ultra-toxic African (sic) bees (nature). When, however, the same actor played a (drunken, cuckolded and incoherent) British academic in *Educating Rita*, he had to put on two stone to look more like a slob.

Thank goodness for the Europeans! At least Umberto Eco had the grace to make the shrewd inclusive, Sherlock Holmes-type hero of *The Name of the Rose* an English scholar. Perhaps, as we move towards another millennial year and the usual millennial fantasies increasingly engulf more rational considerations, such fictions may prove to be particularly consoling.

Yours sincerely,
Professor RICHARD SHEPPARD,
School of Modern Languages and European History,
University of East Anglia.

Code message

Sir, — We do not accept the comments by the National Union of Students that the codes of practice prepared by the Committee of Vice Chancellors and Principals' group on academic standards under the chairmanship of Professor Philip Reynolds have not been taken seriously in universities, or that

the views of students have been ignored about these claims, but none has been produced.

Our information from universities is of detailed consideration being given in departments, by boards of studies, faculty boards, and finally by senates. Because of variations in universities' organization, structure and subject mix, we do not expect the codes to be

adopted by every university in every detail; but everywhere there has been re-appraisal of current practices. Many changes and modifications of procedures have been made.

Yours faithfully,
BRIAN TAYLOR,
Secretary General,
Committee of Vice Chancellors and Principals.

Civil service

Sir, — The use of the Civil Service Selection Board (CSSB) since its inception during the 1940s to select young fast-track general administrators in the civil service has aroused controversy. The disagreement between Prof. Clegg and Thody and myself, this, and I would like to respond to his challenge (*THES*, January 17) to be constructive by suggesting two areas that need attention.

The first is whether CSSB seeks the right qualities in future civil servants who will be guiding the nation's fortunes during a period of marked economic and scientific decline. The most recent thorough examination of CSSB, Richard A. Clogg's *Leadership in the British Civil Service: a study of Sir Percival Waterfield and the creation of CSSB* (Croom Helm, 1984) observes that the selection procedure looks for high intellectual ability, personal qualities, quick thinking and wide interests in candidates.

There can be no quarrel with the first, but how the second is interpreted and whether the last two are as important as they apparently are may be questioned. A penchant for a careful scientific approach to issues, or a deep and abiding interest in a particular hobby, for example, should surely not rule out candidates on the grounds that they are slow and narrow.

The second is what can be done to broaden the recruitment base and particularly to counter the perhaps

Doctors' call

Sir, — "Jobs for philosophers" charitable scheme set up under the education cuts, and established a limited number of doctoral fellowships for young employed British philosophers is a possibility that one can research at postgraduate level who wishes to register a scheme, to write (enjoyable) Jobs for Philosophers (UK code Road, Bristol BS3), qualifications and experience, specialization and any other details.

Yours,
D. K. BUCKNER,
11, Foxcote Road,
Bristol.

Swanning off

Sir, — Are we to conclude that of British universities that UMIST and UWS are the black swans supporting the higher educational policy?

Yours sincerely,
PETER RHODES,
Department of Business Studies,
Sunderland Polytechnic.

Alarm over lost lessons of history

by Peter Aspdon

The "alarmingly random" nature of history staff losses throughout British universities has created a lost generation of young scholars and teachers, claims the Historical Association's response to the Government's Green Paper on higher education.

The paper says random job cuts have led to specific difficulties in many areas of history teaching. In early modern, American and Asian history in particular, disproportionately large numbers of specialists have been lost, mainly by chance.

The losses have also led to a severe distortion in the age profile of many departments, caused by the spate of premature retirements. Many of the most distinguished and experienced historians have been removed in the name of economy, while the recruitment of young historians has "not been dived and has in many institutions come to a halt", says the association.

The paper quotes one example of a university history department which had 21 members of staff in October 1985. No additional appointments had been made since 1976, and no replacement appointments since 1979. When the department lost three lecturers, because of an early retirement, a move to another university and a death, no account was taken of the fact that they were all in the same period of history. "The period — early modern — cannot be taught coherently. The department is left with only three staff aged over 50, and none under 35.

"The damaging effect of such random surgery, and of such age-bun-

ching upon the health of history hardly requires elaboration. Intellectual leadership and new blood are both in short supply, when the need for both was never greater. A whole generation of young scholars and teachers is being lost.

The association also emphasizes that the teaching of history requires a wide spread of higher education outlets throughout the country, and should not be confined to universities, which was one of the Green Paper's "highly regrettable" suggestions.

Another problem was the inability of libraries in institutions of higher education to buy essential new history books. The Government paper did not address itself to the question of how to make necessary recent titles available to history students continuously and at short notice.

"Statistics of numbers of books published in 1985 show that 'history and biography' constituted the fourth largest category after fiction, children's books and political science and economy. Libraries need to be funded to take account of this," says the response.

History should not be treated as an ivory tower subject which disqualified its practitioners from the real world; graduates entered various forms of specialized training and competed successfully for a wide variety of jobs. Historians were "responsive and ready to be taught coherently. The practical of all practitioners of the human sciences. Their good sense deserves to be harnessed and rewarded," concludes the paper.

Burnett goes a year early

The principal of Edinburgh University, Dr John Burnett, has announced he will retire on October 1, 1987.

Dr Burnett, an Oxford graduate, university court he was retiring early for two reasons. Firstly, the university had lowered the retirement age for new staff to 65, the age the principal reaches in 1987, and he said it was to be an effective turnover of academic staff, all members should retire at 65 or earlier.

Secondly, the university plans for the rest of the decade were now with the University Grants Committee, and major decisions on proposals for the development of the Scottish universities were likely to be determined soon, giving his successor "sufficient lead-time" before the next major task of planning for the 1990s.

Dr Burnett, an Oxford graduate, held chairs in botany and rural economy at St Andrews, Newcastle, Durham, Glasgow and Oxford Universities, and has been principal of Edinburgh since 1979.

His successor will be nominated by the curators of patronage, an eight-strong committee of four court members, and four members of Edinburgh district council, backed by six consultative sessions from court and senate.

Student places rethink urged

continued from front page

NAB's agenda which hold the key to meeting full demand.

In a complete reversal of policy, the UGC said it will allow universities to admit additional students on a fee-only basis. This means universities would not get any extra recurrent grant for these students, merely each student's fee. In the past, universities have been fined for exceeding UGC targets.

The UGC is still determining its planning numbers of 1989/90 but expects them to be close to 1984/5 figures, plus additional places provided under the new blood programmes.

It argues that the only acceptable increases in its planning numbers are likely to be in business and administrative studies, computer studies and education.

The planning bodies agreed to hold more joint meetings and high on the agenda will be how to collaborate more closely.

Student demand, page 12

Principal urges Scottish unity

It is vital for the Scottish universities to take a united view of whether or not they want devolution.

This plea came from Dr Tom Bone, principal of Jordanhill College of Education, and vice chairman of the Scottish Tertiary Education Advisory Council, which recently proposed that Scotland should have a single planning and funding council for the whole of higher education, including the universities.

In a public lecture at Strathclyde University on "The STEAC Report — Implications and Possibilities", Dr Bone said he was well aware there was a division of opinion in the universities.

"An important group, especially one with considerable political lobbying power, were opposed to the proposals, the Government might feel it was too great a risk to give the new council funding powers, which would leave it in danger of being a talking shop."

He also said that unless the universities came into the system, the Scottish Education Department will be unwilling to surrender its power over the central institutions and colleges of education," Dr Bone.

He added that the most likely common view of the universities would be

for a Scottish subcommittee of the University Grants Committee rather than the full-blooded council proposed by STEAC.

But while this would ensure that decisions affecting Scottish institutions were taken by people with more understanding of Scottish needs, it would not help higher education in Scotland to face the problems of the next 15 years in a way which reflected the interests of the whole country.

"I think we would be better to have a unified system. A binary system such as exists in England is a continuing recipe for competition and discontent."

"One only has to look at *The Times* every week to see evidence of the tensions which exist there, between the UGC and the National Advisory Body, and between the universities and the polytechnics."

Dr Bone stressed that STEAC did not wish a funding council to be created unless the Scottish universities were guaranteed their present share of recurrent grants and access to research funds.

He pointed out that Scotland has only 3.4 per cent of the British population, but 15 per cent of universities, students and funds. "It might be good for the Scottish universities if the transfer were made now, at a time

when their proportion of the total student numbers is high." If the Government moved, for example, towards a student loans scheme, students might have a different attitude towards a four-year Scottish honours degree.

Dr Bone said that as vice chairman of STEAC, he supported its recommendations, including that on axing three of Scotland's seven education colleges. "But I do not see it as part of my job to go round the country arguing for this one."

The case for college closures was perfectly clear in economic terms, Dr Bone claimed, but the Government would have to take other factors into account and the decision would inevitably be a political one.

The central institutions seemed to be disappointed by the STEAC report, which they thought had done little for them, added Mr Bone. This was partly because they did not want the polytechnic status they might have had, and the university status they might have wanted was at the moment "unfortunately an unattainable aspiration."

But a new planning and funding body would mean difficulties would be shared when student numbers began to decline, rather than being placed on one sector, he said.

New deal ends pay wrangle

by David Jobbins

University lecturers are to receive a 5.2 per cent pay rise in an independent award which effectively ends their 10-month pay dispute with their employers.

The award was made by the chairman of committee A, the first stage of the negotiating machinery, Sir Alexander Johnstone, after union and management negotiators failed to agree. The vice-chancellors had offered 4.9 per cent, although union leaders had hoped for the "going rate" for other groups of university workers of 5.2 per cent.

Some lower paid lecturers will earn up to 6.9 per cent if the award is approved by ministers. Their pay is boosted by an additional £110 for all staff on the lowest grades up to 27 years old. The maximum of the lecturers' scale will rise from £14,925 to £15,701 and for senior lecturers from £17,705 to £18,626.

Leaders of the Association of University Teachers were reconciled to a settlement less than the rate of inflation as a means of ensuring a joint approach with the employers to the Department of Education and Science.

A settlement in committee A now means they will press for an early meeting of committee B, when the two sides will combine to face the DES, to press an agreed case for extra funding for the universities.

They hope that this will enable them to convince the DES in time for ministers to influence the forthcoming public expenditure round for the 1987/88.

Committee B has recently become a formality, with no meeting since 1980 and Government consent to pay rises given through an exchange of letters.

Ulsterman takes over education

Dr Brian Mawhinney, the new parliamentary under secretary of state at the Northern Ireland Office, has assumed responsibility for education in the province. He succeeds Mr Nicholas Scott, who wants more time for duties in the prisons, police administration and criminal injuries compensation.

Educated at Royal Belfast Academical Institute, Queen's University and the universities of Michigan and London, Dr Mawhinney, MP for Peterborough, is the first Ulsterman to be appointed a parliamentary under secretary at the Northern Ireland Office.

Congress threat

The Royal Anthropological Institute has voted to withdraw sponsorship from the World Archaeological Congress, due to be held in Southampton in September, if South African academics are not admitted.

Conference

RESPONSIBLE RECRUITMENT

— A Conference on Overseas Students

20 February 1986

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10.30 a.m. — 4.15 p.m.

Chair: Dame Judith Hart M.P.

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Closing date for application 12 February 1986

Transatlantic teams aim to spell out medieval prose

The charms, spells and recipes of medieval Britain are to be made available to curious scholars and researchers thanks to an international project aimed at listing and indexing every word of literary prose written before 1500.

The work is being carried out by teams of researchers on both sides of the Atlantic, who hope to establish a definitive catalogue of works of the Middle Ages. Professor Norman Blake, of Sheffield University, said their task would take many years.

"There already exists an index of poetry of the equivalent period but that was much simpler to compile as there is less of it and it defines itself more easily," he said.

Academics had spent many hours debating the nature of a "literary" work. "We have not included charters and wills, so it is not a case of

recording every word that was written, but we have included things like recipes which exist in early English text society collections, and some charms and spells."

Lists were already being compiled of the main collections in Britain, the United States and Canada, which researchers making systematic examinations of manuscripts. About 15 people were involved in the British Library collection alone.

"We will obviously come across some previously uncovered material but we are not really expecting to make any major new discoveries as most of the important manuscripts have been thoroughly researched already," Professor Blake said.

The index, in its final form, would make a substantial contribution to the work of scholars and researchers all over the world.

DON'S DIARY

TUESDAY

It seems somewhat indecent to start this diary on the first day of the spring term, so I've waited until the second. I have discovered that I can just about write a press release in the time it takes British Rail to convey me from Coventry to Perry Bar station, but that I cannot write on the return journey at all, as I will explain later.

Begin the day by handing over four press releases which I have stored up. Then hold a series of meetings about the future of our Manpower Services Commission-funded bridge programme. Although we have been very successful hitherto in helping unemployed executives to gain work there is still room for improvement, especially with the forthcoming demise of the West Midlands Council.

Dash to New Street station to find that the return ticket to Leicester is almost £1.50 cheaper than a single. While musing over the mysteries of transport marketing the snow comes down and settles.

My meeting at Leicester is brief but productive. Representatives from Loughborough and Leicester universities, Leicester Polytechnic and the county council are considering setting up a collaborative marketing arrangement. There is no doubt that the PICKUP campaign is having a considerable impact on higher education and, as Colin Graham suggests in his excellent report "Developing PICKUP for Industry" much of the country may soon be covered by consortia of some form or other.

Health bus trip back to Coventry, followed by an interminable political meeting. Thank goodness the Alliance is full of nice people; no claret, only tea to drink.

WEDNESDAY

Every morning I catch the 7.39 train which carries four or five carriages. Not today. To mark the heaviest snowfall of the year, British Rail reduce the train to three carriages so that people are standing before it leaves Coventry - there are a further nine stops before Birmingham. Marilyn, our public relations officer, is very keen on a promotional video so we spend the first part of the day looking at the opposition's output.

Stumble from the dark into a meeting with Sheila to discuss the logistics of holding the 1987 Society for Research in Higher Education conference here. No one has agreed this yet, so I hope that by putting it into print we achieve a self-fulfilling prophecy. Late afternoon is spent in an appeal meeting for our school of music.

THURSDAY

On average I get about 30 items of mail a day and make or receive about the same number of telephone calls, so when I appear not to be doing anything, just fit one of these activities into your mental picture. During the remainder of the morning, I discuss the state of a new course for overseas students with staff from our school of librarianship.

The meeting goes on too long and I fail to attend a lunch-time showing of a video made by our communications students about our Down's syndrome unit. See it later and it is superb.

The afternoon is spent with two friends from Malaysia who are both educational agents. It is about time that someone came out and forcibly defended the recruitment of overseas students. British higher education is the best in the world, but it is complex and our competitors, especially from America, do market fiercely. We must do the same and, by and large, this involves having agents on the ground all the time.

FRIDAY

Get late Christmas cards from Sabah and Hong Kong. The press release begins to bear fruit and I arrange two radio slots: one on exporting to Spain and the other on our teacher education successes.

Have a lengthy "state of the nation" discussion with the head of our enterprise unit which has been so successful since its establishment in September that we have not had time to launch it formally. Postpone a meeting on conference and vacation lettings as the rampant flu virus has claimed another victim and see the head of our school of architecture instead about a possible summer school.

It would seem that our little local problem with Natthe which has resulted in one of our full-cost courses being "blacked" has not dampened enthusiasm. Extremely interesting session with the dean of engineering who really can put flesh on the meaning of "industry-education" links.

British Rail again! Every train from Birmingham to London every evening has at least six first class carriages with an occupancy rate of one per carriage. The second-class corridors, however, average 10 each because all the seats have long gone. Nevertheless, the guard always throws us second-class citizens out of the first class seats. Why?

SATURDAY

Starts with an early call by two Watch Tower saleswomen who seem a little distressed by my pyjamas. Make a mental note to get a new pair, preferably not Marks and Spencer's. As the weather is mild I put a couple of hours political leafletting and the almighty shows her displeasure by making it rain.

Intriguing reply league on the television in the afternoon followed by a friend's home-warming party in the evening. The party comprises only ex-Warwick students, many of whom are rapidly climbing their respective career ladders.

SUNDAY

Read the newspapers, watch the television (I am addicted to American Football) and struggle through some of the literature on flexible manpower policies. I am certain that there are some major lessons to be derived by higher education from, in particular, the work of Atkinson at the Institute of Manpower Studies. Promise myself that I will have written an article on the "Flexible University" before this diary is published. I know now why I prefer doing things to writing about them.

MONDAY

... and the key to successful management in higher education. It lies with the concept of the directorate, that is, a small group of professionals with permanent institution-wide responsibilities.

By now readers will have gathered what I do for my "external affairs". In addition, I have three colleagues who are responsible for course development, staffing and resources respectively, plus the boss - Peter Knight.

We work continually together as a coherent management team. Until universities sort out the roles of committees, vice-chancellors, pro-vice-chancellors, deans and, especially, senior administrators they will never be as efficient as polytechnics.

I spend the afternoon ranting up against the polytechnic problem - poverty. Explain seriatim to a group of dance staff that I do not have £1,000 for venture capital to turn a brilliant dance notation computer program into a commercial venture but that I will find it somewhere; to our students that the central hospitality budget cannot provide a buffet meal for the distinguished speakers they have invited to debate the Channel Fixed Link and to an unexpected visitor from Greece that I cannot take him out for an evening meal.

Instead, I meet him on Coventry station and have a cup of coffee in the buffet. Thank you, British Rail.

David Warner

The author is the assistant director for external affairs in the City of Birmingham Polytechnic.



Looking for signs of life

North East London Polytechnic staff searching for "new" following the annual flooding of the River Roding which has brought back flood insects destroyed last year when gallons of insecticide were poured into the water. The researchers from the environment and industry research unit who have spent last year monitoring the effects of pollution in the Roding valley now that a number of new creatures such as shrimps and mayflies are colonizing the

Fair deal urged for refugees

by David Jobbins

Overseas students with exceptional leave to remain in the UK by the Home Office should be entitled to home student awards in the same way as those granted asylum, according to a report published this week.

It accuses the Government of ignoring its responsibilities to refugees by slashing scholarship programmes.

The report, *The Forgotten Overseas Students*, was produced by a working party established to draw up a series of recommendations on educational assistance to refugees.

It points out that since 1979, the amount spent on Government scholarships has fallen from £3.5 million to an estimated £0.7 million.

The group's convenor, Mr Nigel Hartley, general secretary of World University Service, says: "Since the Government raised overseas student fees in 1979, we have seen a piecemeal approach to compensating refugees."

The policy is up for re-evaluation this year. Surely, especially since the regrettable decision to end Britain's £4.6 million grant contribution to Unesco, we can find the means to adopt a more generous and a more coherent policy on refugees."

It calls for at least 400 scholarships a year to be set aside for refugees - targeted at groups with special needs, especially South Africans, Namibians, Central Americans, Palestinians and those from the Horn of Africa.

These would be tenable either in the UK or in the refugees' home countries. Also it says that grants regulations should be changed to give students granted exceptional leave to remain in the UK the same status as students given asylum.

At present students with asylum status are entitled to fees at the home rate and to a home student award. But those granted exceptional leave to remain, while qualifying for home student fees remain overseas students for grant purposes.

Better information for overseas students on accommodation in London is called for in another report published this week and due to be discussed by the London conference on overseas students this weekend.

ABRC launches flexibility probe

by Jon Turney
Science Correspondent

The Advisory Board for the Research Councils has set up a new inquiry into the flexibility of the research councils, to be conducted by Sir Ralph Kilby, former secretary of the Agricultural and Food Research Council.

Sir Ralph's inquiry will consider how council's manage the balance between short and long-term commitments in their programmes, and will focus on the AFRC.

The study, due to be completed by the middle of this year, is concerned with research sponsors' response to new scientific opportunities, a recurrent theme in the AFRC's policy discussions. It will re-open several debates about research organization, including the balance of effort between research councils' own institutes and research in universities.

The study will also consider the balance of power between council headquarters and institutes fighting to

retain their traditional programmes. Sir Ralph has been asked to look at external limits on flexibility including the Treasury's bar on carrying money over from one year budget to the next, changes in commissioning research from government departments and in the AFRC's strategy.

Although the inquiry will consider the Agricultural and Food Research Council - which has instituted a major reorganization of its own laboratories during the last three years - final report will also consider the additional questions like the commitments to international scientific collaboration will also play.

Sir Ralph will make recommendations to the AFRC on how to improve flexibility, drawing on his experience at the agricultural and on practice in other public and private sector research organizations.

Poly may close three sites to save money

by Felicity Jones

Middlesex Polytechnic has gone ahead with its plans to investigate the feasibility of closing three sites to avoid a £250,000 deficit.

The polytechnic's governing body agreed to look into the closure of Quicksilver Place, Chase Side and Ivy House sites after the planning and resources committee came up with the solution to save the required money.

A polytechnic representative said: "It must be made quite clear that no decisions have yet been made. The polytechnic has to make savings of £1.2 million. Most of that can be done through one-off savings but that still left the £250,000 and the closure of these sites just happened to add up to that amount."

The joint education council representing the London boroughs of Har-

net and Enfield will be asked to stand the cost of the two main sites, perhaps Ivy House will be the end of the financial year.

Each borough will be asked further £50,000 towards the cost of a similar amount work being done by the polytechnic on capital budget.

The rest of the £1.2 million will come from unspent reserves and money which will leave the polytechnic with no further reserves to fall upon in future years.

Professor Bob Perks, assistant vice-chancellor, said the plan was to reduce the number of teaching and non-teaching staff by an enhanced early retirement scheme.

Two-tier UGC proposed

The Fellowship of Engineering's submission to the Croham committee calls for a two-tier University Grants Committee with more lay members and a stronger secretariat.

The fellowship says lay members should be concentrated in an upper, "policy" committee, and that it would like to help find them. The lower level committee would focus on detailed management of the university system, through "control of finance with detailed advice and guidance."

In addition, the engineers emphasize that universities must be accountable for effective use of public money. Their submission says they should retain their constitutionally independent status, but that "complete academic freedom can only be granted to those who are privately financed or who visibly earn it."

Management should be achieved through clear indications of the balance of funds between fields in the fellowship's view, and through greater use of earmarked funds. This would be achieved through five subcommittees, for engineering and technology, physical sciences and mathematics, biological sciences, medicine and arts and social sciences. The submission also calls for a new group to study needs for graduates, especially in engineering disciplines.

More tentatively, the fellowship asks the inquiry to consider giving the two revised "UGC" committees responsibility for the polytechnics as well, on the grounds that "the distinction between universities and polytechnics has become increasingly blurred."

The submission proposes weighting the components of block grants to enable universities to pay staff in engineering and computer science on higher grades, to attract good teachers from industry.

Managing role stressed

The University Grants Committee must reestablish its preeminent role in the management of Government money and initiatives for the universities, the Conference of University Administrators has told the Croham inquiry, which is examining the role and functions of the UGC.

The Government over the last two years into the affairs of the universities, such as the "new blood" scheme where specific terms were laid down, and the switch to science and technology.

"This is a trend which unchecked could lead to the questioning of the existence of the UGC and the autonomy of the universities," it says.

The CUA sees no prospect of a substitute for the UGC which would command the same confidence, but makes specific recommendations for change.

There should be a thorough review of the purposes and functions of the subcommittees, with radical revision of the range, distribution and coverage of subjects, it says. More subcommittees might be necessary.

There should be more secondment of staff from Whitehall, particularly in areas of special expertise.

Nautical college may transfer

Lothian Regional Council seems poised to take over control of Leith Nautical College, one of Scotland's 16 central institutions. But the future of the college's teaching staff remains unclear, with fears that around half could lose their jobs.

A year ago, the Scottish Education Department decided that nautical education should be centred in Glasgow, and has been pressing Lothian to take over Leith as a further education college.

Yesterday, Lothian's director of education, Mr David Sample, recommended the council's tertiary subcommittee to accept the college in order to rationalize course provision and close current annexes. Leith would be the region's first college in the east of

NAB social science cuts 'misconceived'

by Karen Gold

Social scientists in polytechnics and colleges will appeal to the National Advisory Body board next week to reconsider proposed cuts in social science courses.

The Association of Learned Societies in the Social Sciences has written to the NAB board, and has asked to meet its members at their April meeting, because the association says the NAB structure and work of regular representation.

The association's letter says its members are increasingly concerned about NAB's approach and emerging policy to social science, ever since it decided not to allocate any of the public sector £2.5 million research funds to the social sciences.

NAB had indicated possible cuts of 20 per cent in student numbers in all the social sciences except economics in 1987/88. All SSS cannot accept that disproportionate cut due its subjects being "non-protected" the letter says.

The cuts not only threaten the viability of courses and departments, but also reflect serious misconceptions about the nature and role of social

sciences, such as that most social science should take place in universities. This ignores the widespread demand for public sector courses, the letter says, and ignores the fact that social sciences in the public sector are applied and practical and a supporting element in widespread areas of business and management, science, technology, engineering and information studies.

The letter attacks the idea that social science is not a "vocational" subject, since the social sciences not only play a significant part in these other courses but also are recognized as the best background for some kinds of vocational employment and good intellectual training for others.

The narrow definition of "science" is also disadvantageous to the social sciences, it says: many have important scientific components and all "like the natural sciences, entail rigorous analysis." Social science subjects, other than those in business areas, could be cut by more than 20 per cent if the NAB's existing policies were retained. But the influential Chairman's Study Group has recommended that the differential between "protected" subjects and the rest should be reduced considerably.



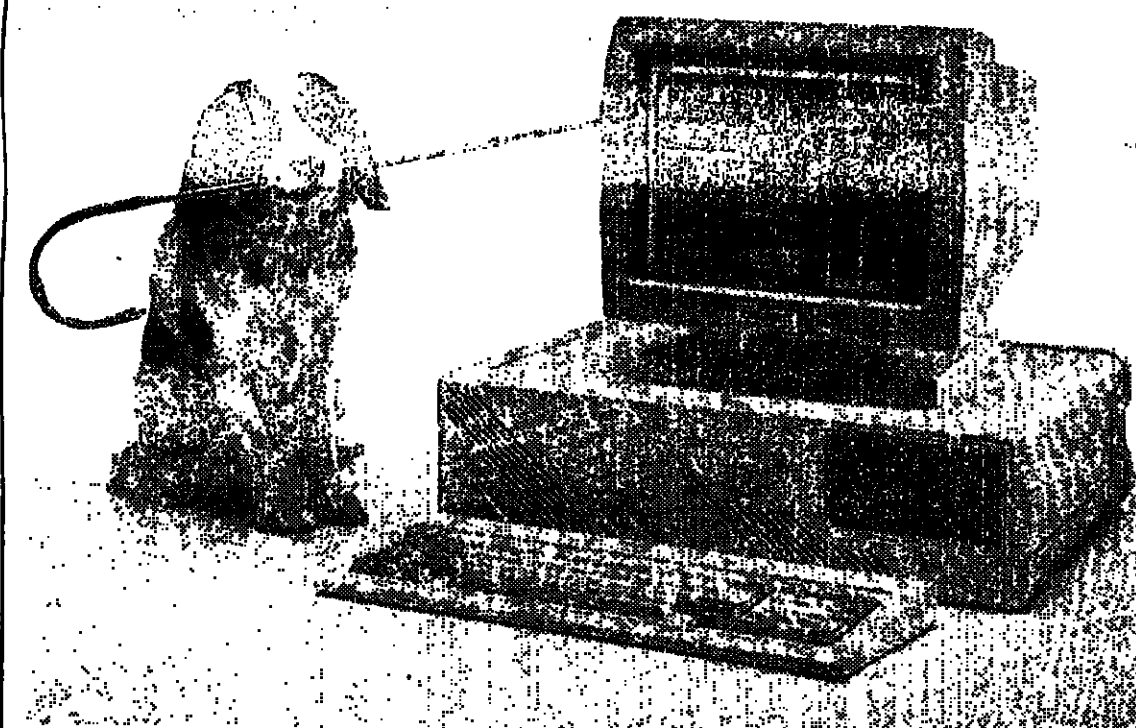
The fruits of their labours... Dr John Stewart and MSc student Bruno Stiglmay of Heriot-Watt University's department of brewing and biological sciences examine their latest batch of fruit wine.

fruit such as raspberries, blackberries and gooseberries.

The one-year feasibility study is being carried out by Mr Stiglmay, a Frenchman who graduated in vinology from Montpellier University.

Dr Stewart reports no problems in finding a taste panel among his colleagues. "They are very enthusiastic, even about some of the things we think are undrinkable."

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Fanfare heralds launch of new two-year YTS

by Carolyn Dempster

A marketing fanfare marked the official media launch of the new extended two-year Youth Training Scheme this week - described by Secretary of State for Employment Lord Young as "a turning point in the history of vocational education and training in Britain".

Government commitment to the new scheme, due to come into operation on April 1, is considerable. Exchequer funding for YTS in 1986/87 amounts to £525 million, with a further £1.1 billion input targeted for 1987/88. It is intended that not only should the two-year YTS not be allowed to fail, but it should become an integral and permanent feature of vocational educational and training provision - the

preferred route to permanent employment for all 16 and 17-year-olds leaving full-time education.

"I believe that the new two-year YTS stands comparison with any training system for young people in the world," said Lord Young. "Until we are prepared to commit ourselves to training in the way in which our competitors in Germany, Japan and the United States of America do, we shall be struggling to compete."

Fears have been expressed that the two-year YTS is being introduced too rapidly and the Manpower Services Commission is moving too fast for employers and managing agents.

"If we wait until the scheme is perfect then it will never happen," said Lord Young, stressing that it was crucial the MSC moved at a pace at

which employers and area officials can handle it.

The Trades Union Congress has also thrown its full support behind the scheme, in spite of reservations about the potential for employer exploitation of the scheme as a cheap labour source, and its speed of implementation. "The scheme is not perfect in our view," emphasized TUC general secretary Norman Willis.

"We were deeply disappointed that the first year allowance has not been raised above £27.30 a week, and we are concerned not to rush the implementation despite the obvious temptation presented by such terrifying levels of youth unemployment. But we think the YTS can be the foundation of the two-year high quality training scheme the TUC wants, and young people and

the country need," he added.

On the question of quality, only approved training organizations will be permitted to take part in the scheme, and will have to meet a "tight set of criteria", said MSC chairman Mr Bryan Nicholson. A new Training Standards Advisory Service, staffed by industry and education representatives and similar to HM Inspectorate, will be established in April.

A unique feature of the new scheme is that it will offer, for the first time, every trainee the opportunity to gain qualification that employers recognize and want. A YTS certification board consisting of representatives from City and Guilds, the Royal Society of Arts, the Business and Technician Education Council and the Scottish Voca-

tional Education Council is established.

Speaking for the employers, Terence Heckett, director-general of the Confederation of British Industry, said the launch of the two-year YTS was causing problems because of cost, bureaucracy and difficulties involved in creating a new framework, at a time when the year scheme was itself only becoming established.

However, employers had given first undertaking to support the scheme. 100,000 have responded to the MSC, and 85 per cent of the places available have already been taken up - more than at any stage of development of the one-year YTS.

ICMA

The Institute of
Cost and Management Accountants
Incorporated by Royal Charter

Educating Tomorrow's Financial Managers TODAY

All decision making in business and government has financial implications. Thus management accountants are found at the heart of every major organisation - active participants in the total management process.

Management accountancy, once concerned mainly with business controls, is now more involved in planning, evaluating alternative courses of action and in working with other managers to make effective decisions. This change in emphasis has led many major employers to shift their recruitment and training policies towards developing their own financial managers.

More and more employers, working with Professional Development Officers from the Institute of Cost and Management Accountants, are setting up programmes to meet the needs of both the organisation and the individual employees. These programmes combine practical experience in specified activities within the business with a rigorous examination syllabus leading to the professional qualification of the ICMA.

The popularity of this qualification, with employers and individuals alike, is reflected in the rapid growth in ICMA membership: 3,000 in 1950, 19,000 in 1980 and today almost 25,000. A further 40,000 students are now studying for the ICMA qualification.

New flexible syllabus: The business environment is changing fast and management structures and systems are now in a state of constant evolution. The use of information technology is growing rapidly in almost all areas of activity. To meet the changing needs which arise from these trends the ICMA has evolved a new syllabus.

The new syllabus - drawing on detailed consultations with business, ICMA members and students and those teaching on ICMA courses - continues to bridge business and accountancy and retains its strong emphasis on practical applications. But it now:

- is structured more logically
- permits a more flexible organisation of study time
- allows teaching to be more easily organised
- places a strong emphasis on the practical uses of IT
- offers a more sensible exemption policy

Syllabus structure: From the 1986/87 academic year the syllabus will be of four stages, each covering four topics. These stages, with the subjects covered, may be classified thus:

1. Preparation for business and accounting: business law, economics, quantitative methods and accounting.
2. Tools of management accountancy: management, information technology management, cost accounting and financial accounting.
3. The rules of a profession: company law, business taxation, management accounting techniques and advanced financial accounting.
4. Management accounting: decision making, control and audit, strategic planning and marketing and financial management.

Non-relevant and semi-relevant graduates in the UK and Eire have the option of taking exemption papers instead of the stage 1 papers. Exemptions to stages 2 and 3 are available depending on degree relevance.

For more information: Copies of the new ICMA syllabus may be obtained by completing the coupon and sending it to: Education and Training Department, The Institute of Cost and Management Accountants, 63 Portland Place, London W1N 4AB

Name _____ Position _____
Address _____
Postcode _____

Call to rebuild Tay bridge

The former principal of Zimbabwe University has questioned whether St Andrews and Dundee Universities, which separated in 1967, should remain separate.

The Rev Professor Robert Craig, a St Andrews graduate, and moderator-designate of the general assembly of the Church of Scotland, told a meeting of the university's senior graduates club that the two institutions had been "very effectively complementary" when he had studied there, and either would have been greatly diminished and impoverished without the other.

He asked whether the two institutions did not still have a great deal to give each other, and suggested that it might be a case of the whole being greater than the sum of its parts.

"The two institutions, territorially speaking, share an identical obligation to serve, in the first place, the people of east and central Scotland, and are situated 10 miles apart. Does the experience of the past 20 years justify the continued separation?"

Professor Craig added that he hoped "that in these critical times for our own and for all British universities, consideration may be given by wise men in high places, on both sides of the Tay, to how best St Andrews and Dundee can together best measure up to the common responsibility which it laid upon us."



Looking thoughtful: CVCP chairman Mr Maurice Shock (left), secretary general Mr Brian Taylor (centre) and Manchester University vice-chancellor Professor Mark Richmond, at a London press conference.

Universities take local line

by Peter Aspin

Universities' links with industry and the role they play in local communities are to be the twin planks of their public relations strategy over the next 18 months, the chairman of the Committee of Vice-Chancellors and Principals, Mr Maurice Shock, has announced.

Mr Shock, vice-chancellor of Leicester University, made his remarks in the aftermath of the CVCP alternative Green Paper, *The Future of Universities*, launched in London last week. He said it was important for univer-

sities to follow up their 14-page document with a medium-term campaign to emphasize their usefulness to the economy and the public at large.

"The industry theme is an obvious one, as we can point out universities' contribution to industry year, but it is also important to do a great deal more about publicizing our role in a wider framework, particularly what we do for the local community," he said.

The CVCP hopes to appoint its public relations officer by Easter, who will be in charge of the campaign to boost universities' image, but Mr Shock said he would like qualified

people from outside the university system to get involved in the project.

"Specialist personnel, I would like to see out of our own ranks and take a long, objective look at the various aspects of our work, particularly in the case of our links with industry."

"We need to emphasize what has already been done, in terms of the contacts we have established, as well as looking to the future and deciding what needs to be done."

Mr Shock emphasized the urgency of the new move: "We have got to get on with some planning to show what we can do."

Study plan for outsiders

London University plans to develop an independent guided study system for external students who at present study privately in their own time and pay the £120 initial registration fee to sit the degree exams.

The plan - to take effect in a year - is to build upon existing student resources rather than duplicate that provision.

The scheme will introduce subject guides which will suggest priorities and a timescale for study in particular subjects. It will give guidance to new students on how to study by themselves and to exam candidates on how to write relevantly and effectively. Three kinds of weekend study

courses - for beginners, on-going studies and for revision - will be provided and preliminary approaches to extramural departments have indicated interest from other universities in tutorial support.

External students will have for the first time access to a tutor for advice on study problems, informal assessment and the development of a work plan for study with tutors available to mark "model" exam papers.

Other provisions will include access to learning materials on video or audio cassette, improved library facilities and the means to form self-help groups with students in one locality.

End to pay dispute in sight

An end to the year-long Scottish college lecturers' pay dispute is in sight with the management side of the Scottish Joint Negotiating Committee offering a 6.1 per cent pay award.

The offer is made up of a 5.7 per cent award from last April with an increase of 7.3 per cent from January. The offer also includes the automatic transfer of lecturer at the top of the lecturer B scale to the senior lecturer I scale, and proposes a salary structure review to be completed by March.

Three of the five unions involved, the further education lecturers' national section of the Educational Institute of Scotland, the Scottish Further and Higher Education Association, and

the Association of Lecturers in Scottish Central Institutions, are balloting their members on the offer before the next staff side meeting on February 4.

Lecturers are not being recommended to accept or reject the offer, although the unions have issued statements highlighting its deficiencies, pointing out, for example, that it does not exceed the rise in the retail price index, and does not restore salaries to a level comparable with other professional groups.

However, the statement circulated with the ballot papers from Mr Jack Dale, EIS further and higher education secretary, adds that there are real improvements on the original offer.

PARTY LINE

Liberal helping of dirty tricks

"Be more clever," the party faithful are urged, "perhaps by phoning the Tory/Labour agent to say how impressed you were with their production and offer to help deliver the next one." How disillusioning! And Mr. Steel is such a nice man, with his 'good guy' image so well honed.

Politics of course gets into the blood. It can be a drug. The manoeuvring and intrigue become addictive.

Just look at how the Heseltine/Brillan battle inside the Cabinet entangled everyone over the holidays. It might not appeal to the fastidious, but it certainly enlivens politics for the public. It would be wrong, however, to see an emphasis on personalities necessarily tri-

vilizing the issue. Squabbles are good for democracy. They help the cause of open government!

There have also been real matters of substance in the Westland saga which received a good deal more public scrutiny than they otherwise would: not just who should control our sole helicopter manufacturer, but also about the Government's industrial and European strategies. Think what it would do for the public debate (is there one?) on higher education, if Sir Keith fell out with Mr Lawson over the proposed sale of a university.

The public likes a good scrap. But they also seem to want to look up to their "rulers". It must be the intrinsic differential habit of the British. They expect a more civil-

ized political style than that which they hear on the radio today. Of course the House of Commons in the 19th century was not a very temperate place either, and the further one goes back the worse it seems to have been. The two parallel lines down the centre of the chamber, across which an MP must not step if he wants to stay in order, are known as sword lines. Two sword lengths apart, they were put there to keep the two sides from lunging at each other.

If cross-chamber banter and bawling is traditional and understandable, concerted organized displays of synthetic anger and noise geared to drown and destroy an opposing speaker is not productive of anything other than public con-

tempt. During the Thatcherite time/Brillan dispute the Lib Party moderated its style. The blunderbuss of rhetoric is preferred to stiletto quibbles. Labour MPs have learnt from disastrous Tebbi/Kinnock encounter on the occasion of the Front Bench debut since both party chairmen. Then the Lib Party of the Opposition was party of his school rugby club jumping to the Dispatch. Various gestures to indicate he would prefer to take his place and have a round with Thatcher. In terms of drama the Chamber can often beat Dynasty, though will need to improve the show. Our women if we are to compete in the television age, only we were on TV. Then Opposition would dare to do such silly and puerile displays.

Keith Hampton

The author is Conservative MP Leeds North-West.

السلامة

Attack on 'cancer of sociology'

by Felicity Jones

Scientific scholarship is rarely found in the polytechnics which are in the grip of the "cancer of sociology", a right-wing magazine says in an editorial on the Government's Green Paper on higher education.

The polytechnics have little reason to grumble at the Green Paper even though they claim to provide the kind of higher education for which it seems to be asking, says *The Salisbury Review*.

"Real technological education is increasingly rare," the editorial says. "It cannot be divorced in the end from scientific scholarship and scientific scholarship is a commodity that is rarely found in polytechnics most of which are now oppressed by a large and growing cancer of sociology."

"Marxism, feminism, third worldism, pacifism and egalitarianism are the assumed premises and foregone conclusions of every discussion and every pretence in debate."

"The resemblance of this sub-culture to the activities traditionally promoted by institutions of learning is negligible," says the piece, which ranges over a variety of topics including Bradford University's School of Peace Studies and Unesco.

Sir Keith Joseph, Secretary of State for Education and Science, is not immune from sharp criticism for having chosen to ignore the facts such as the "unintentional desire for 'social justice' as its principal educational goal."

The editorial's authors hope that this omission will be corrected by Mrs Margaret Thatcher. "Perhaps one day the Prime Minister will recognize facts which Sir Keith Joseph has chosen to ignore and which are of such concern to her constituents. The chances are, however, that they will both by then be out of office," they conclude.

The so-called cancer of sociology is also eating away at the universities and school curriculum, according to the editorial, which has little to say about the Green Paper itself.

The sociologists have penetrated institutions of learning at all levels, destroying the customs of scholarship and open inquiry "which once provided such an obstacle to their progress."

Bradford School of Peace Studies is said to be "the most notorious, but certainly not the most outrageous, among recent coup d'états".

It is a university department whose "whole raison d'être is to affirm and propagate the dreary attitudes of the left" in their "long march through the institutions".

Poly to offer DIY degrees

Students will be able to devise their own study programme under an ambitious pilot project at Newcastle Polytechnic which aims to straighten its associate student scheme.

The "Meeting the Needs" pilot programme which has agreement in principle from the Council for National Academic Awards will provide a stepped system of awards building up to a degree.

Dr Harry Stanton, of Tasmanian University, says a combination of two psychotherapy techniques, reframing and ego-state therapy, can help lecturers overcome their deepest fears, by enabling them to communicate with the part of their mind other techniques cannot reach.

Dr Stanton says each person has different parts, or ego states, which want to do different things. "For example, one part of us may enjoy talking about our subject, another might feel nervous about standing in front of an audience, while a third might dislike being questioned by students," he says in an article in *Higher Education Research and Development*.

Once a lecturer identifies an aspect of behaviour

Civil servant at centre of cuts row

by David Jobbins

No civil servant relishes being publicly savaged for decisions taken ultimately by his or her political masters, but of all by Parliament's key watchdog on Government spending.

When the limelight fell on Sir David Hancock, permanent secretary at the Department of Education and Science, he took his dressing down by the powerful Commons Public Accounts Committee stoically.

Questioned by the committee about his department's role in monitoring the rundown of university teaching staff, he saw little to apologise for. However, his insistence that the prospect of doom uttered by the last chairman of the University Grants Committee had not been fulfilled in practice uncovered a bitter division within the PAC's investigatory arm and pitched him unwillingly into a text-book case study.

The Public Accounts Committee dates back more than 100 years. But although its constitutional role has changed very little since then despite the vast increase in the amount and scope of public spending, some see the origin of the row in the search for value for money which has been an expressed aim of the current Government.

The investigation was carried out by the National Audit Office, known as the Exchequer and Audit Department until 1983, and set up to aid the Comptroller and Auditor General in 1866.

While the position of the Comptroller and Auditor General, currently Sir Gordon Downey, was changed only slightly by the 1983 Act, the changes to his department went much further. Until the Act, the staff of the Exchequer and Audit Office were civil servants, but they are now strategically positioned outside the cosy Whitehall "club".

Value for money has always been an important consideration for National

The Scottish Office minister for industry and education, Mr Allan Stewart, has refused to guarantee level funding for the Scottish universities if they come under his control.

Mr Stewart told a delegation from the Association of University Teachers (Scottish) that he was open-minded on the proposals from the Scottish Tertiary Education Advisory Council that Scottish university funding should be devolved to the Scottish Office.

But while he stated that Government policy was for level funding of the Scottish central institutions, he said he could give no assurances about the universities. However, he added the Government was listening very seriously to representations that further cuts would cause great damage.

The delegation pointed out that while student intakes to the central institutions had expanded, intakes to the universities had declined.

"We stressed that in view of the competitive levels of university entry qualifications, there is a need for additional resources if real progress is to be made in widening access," said AUT regional official Mr David Bleiman. "Mr Stewart showed a genuine interest in expanding access for disadvantaged groups, but we were disappointed that there is no commitment on university level funding."

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Sir David Hancock

Audit Office staff, but the Act gave Sir Gordon statutory authority to carry out investigations based on this premise.

It was value for money which formed part of his public disagreement with Sir David. A guiding principle for the Public Accounts Committee has been that it should not get involved with the merits of Government policy decisions but only to consider the way in which they were implemented - whether the goals were achieved rather than the goals themselves.

To enable the committee to do its job, it insists that each inquiry is documented in an agreed report - and it was this convention which broke down last week.

At the heart of the row was whether the DES had taken enough account of a warning by Sir Edward Parkes, the then chairman of the University Grants Committee, that the magnitude and timescale of the 1981 cuts would result in "disorder and discommodity".

Questioned by Mr Robert Sheldon, chairman of the PAC, Sir David said: "To use the phrase implies the way it was done caused disorder and discommodity."

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Mr Robert Sheldon

nomy which could have been avoided if it had been done in a different way. It is not my view this was the case."

An interim report on the scheme from the UGC was "not worse than we had expected - some of my colleagues read it with feelings of relief rather than alarm," Sir David said.

Yet as Mr Sheldon and Labour members of his committee pointed out, the report gave no indication that Sir David disagreed with the terms of the warning, or that the DES had taken steps to prevent or minimize damage to the universities.

Sir Gordon told the committee: "What I find difficult to follow from Sir David's explanation is that nothing that happened was worse than expected against the agreed statement that although the primary objective was to reduce public spending, the Government also saw the need to ensure that the university system was not damaged."

Defending the DES against the serious parliamentary charge of "commoditisation", Sir David said: "I cannot say it [the redundancy scheme] had been implemented in such a way as to

cause disorder and discommodity necessarily."

With Sir David and Sir Gordon unrepentant loggers, Sir Gordon stepped in. Warning Sir David that the matter was serious, he said: "To come here at this time to bring a division of view into work almost impossible. It is not your job to do this again."

But Sir David stuck to his guns. "There is no disagreement on the DES was inactive," he said. "I am resisting suggestions that DES was inactive."

Mr Sheldon drew attention to a convention that reports should only be agreed for accuracy, but departments would draw his attention to relevant evidence would be "rather disappointing".

DES had interpreted this as communications with the UGC not other contacts.

Unmoved, Sir David again defended. "There was an exchange of correspondence between myself and Sir Gordon. We drew a distinction between errors of fact... I regard it as proper to put to Sir Gordon what comments he should make."

Mr Sheldon: "Did you tell him: 'We do not agree with the way you are making?'" Sir David: "No."

Mr Sheldon: "This clearly is an abdication of your responsibility. Our work becomes impossible on the basis of non-agreed facts."

So the next step is for Sir Gordon to decide a memorandum to the committee making clear they agree and disagree. This document, almost certainly ready by departmental despatch, passed by the DES Audit Office, is likely to be read by the committee after Easter.

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Left group stays in NUS race

by David Jobbins

Labour's main rivals for control of the National Union of Students are to run a candidate for the organization's presidency despite the defection of a key political ally.

The Left Alliance, which has comprised independent, Communist, Liberal and some Labour activists and last held the NUS presidency in 1982, adopted Mr Andy Whyte, this year's NUS education vice president, to run against the National Organization of Labour Students' choice for president.

The NOLS is due to select its presidential and other full and part-time candidates this weekend - and is likely to be influenced by the departure of the Communist Party of Great Britain from the Left Alliance.

The CP's decision to leave the organization it was instrumental in creating paves the way for a realignment of the student left in the run-up to the NOLS attempt to retain control of the NUS. Its plans were argued at the weekend's Left Alliance conference but were defeated, provoking the decision to leave.

It is now likely to steer a course between the two groupings, lending its political influence and conference voting strength as its leaders see fit.

But the Left Alliance, which has attempted to build an organization in the colleges to match what its critics dismiss as the NOLS machine, is determined to stage a massive push in the pre-Easter conference period.

Mr Whyte is one of a growing number of Labour supporters of the Left Alliance, and has been vice president education for just one year. The conference decided to run a Labour candidate, Mr William, for the NUS presidency.

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Sir Keith's economic policy

by Carolyn Dempster

Economic awareness should not necessarily be a special subject in its own right, but the Government wants it to pervade the curriculum. Sir Keith Joseph, Secretary of State for Education and Science, told delegates to the National Council for Educational Standards conference this week.

Pursuing the conference theme, "Education for prosperity", Sir Keith said one could put the blame for Britain's flagging performance on

politicians, management and the unions. "I would prefer to put it on the intellectuals and opinion makers," he said. "Productivity comes from perceived self-interest."

"One of the Government's first tasks in heightening economic awareness would be to acquaint teachers with

something that they themselves had not been taught. And one of the ways to achieve this would be the active encouragement of more secondments of teachers to industry."

At stake for future prosperity was the successful linking of skills to market demand. "Unless these skills are linked to the market, and serve thereby to link producer and consumer, we shall not prosper," he said.

On the critical shortage in science and technology subjects, Sir Keith said he had been cast as a philistine for his emphasis on these subjects in terms of the "switch" scheme.

"It might be true that philosophers are even more important than scientists and engineers, but they are still cheaper to train," he argued. One of the biggest unused reservoirs was feminine, and efforts should be maintained to attract an increasing number of women into the engineering, science and technology fields.

Part of the bargain which Sir Keith was trying to strike with the teacher unions carried conditions that teachers complied with certain functions that would increase in-service training. "Those who doubt the efficacy of rising pay must know that teaching has its own satisfactions, and, compared with business, entails less risk of unemployment," he said.

With the advent of the microchip age, jobs were being removed at the bottom end of the ability range and replaced with jobs at the top, making it imperative that all ability ranges be educated to a higher level.

There was also a need for far-sighted, imaginative and strong leaders in all social institutions who were prepared to use influence to impress upon their followers the need for major changes in organizations and ways of working. Britain was faced with two factors: social attitudes on the relative prestige and worth of the

industrial activity, coupled with the inertia of social institutions.

"I believe the many social organizations would respond to a powerful and comprehensive statement of an overall strategy for education and training. We must not only change the cultural climate in the country, but we must also change our social institutions to meet the new national priorities of this technological age."

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John O'Leary analyses the latest student demand estimates

The latest official estimates of future student demand offer only a marginal improvement in the outlook for higher education, but they may mark an important change of ground in the continuing debate on the likely size of the system. In producing such contrasting projections from straightforward policy changes, the Department of Education and Science has dropped any pretence that the figures are not, to some extent, what the Government wants to make them.

Two of the four detailed projections, differentiating for the first time between subject areas and sectors, are said in the DES commentary to be "entirely attributable to the direct effects of policy assumptions adopted on subject and sectoral balance". The other two are based on possible changes in participation rates which are themselves influenced by Government decisions on student support.

There never was any doubt that the critics of previous DES projections would keep the debate alive - most have a vested interest in keeping the pressure on the Government to plan for the largest possible system. The fact that projected numbers have been increased both times they have been updated has made this doubly certain.

Like last time the exercise was undertaken, it was found that even the current academic year's student population had been considerably underestimated. The main reason for the increased projections is not a sudden conversion on the question of participation by working mature students: it is an unexpectedly large number of students entering universities in 1983. The result was a 4,000 increase in the provisional figure for universities last year, which turns into a 7,000 rise next year and in all future years until 1993.

If such changes can take place unexpectedly in the immediate future, what price the accuracy of predictions for the 1990s? The answer, as most informed observers already knew, is that the projections are bound to be extremely suspect, especially since

Variations on an expanding theme

Projection 1: Medicine steady at 1984/85 levels; initial teacher training as 1989 plans; university science and engineering as 1984/85, public sector as 1985/86 plans; all cuts in public sector arts, humanities and social science, university numbers as 1986/87 plans. Total consistent with update of Variant Y.

Projection 2: Medicine, initial teacher training, science and engineering as per Projection 1. Cuts divided between arts, humanities and social science in both sectors, with participation rates assumed to remain constant at 1984/85 levels. Total consistent with update of Variant Y.

Projection 3: Medicine, initial teacher training, science and engineering as per Projection 1. All cuts in public sector arts, humanities and social science, with university numbers rising in line with previous experience of trends when university share of places increases. Mature student participation held at 1984/85 levels, that by school leavers increasing. Total the highest of the four, up to 40,000 places above Variant Y.

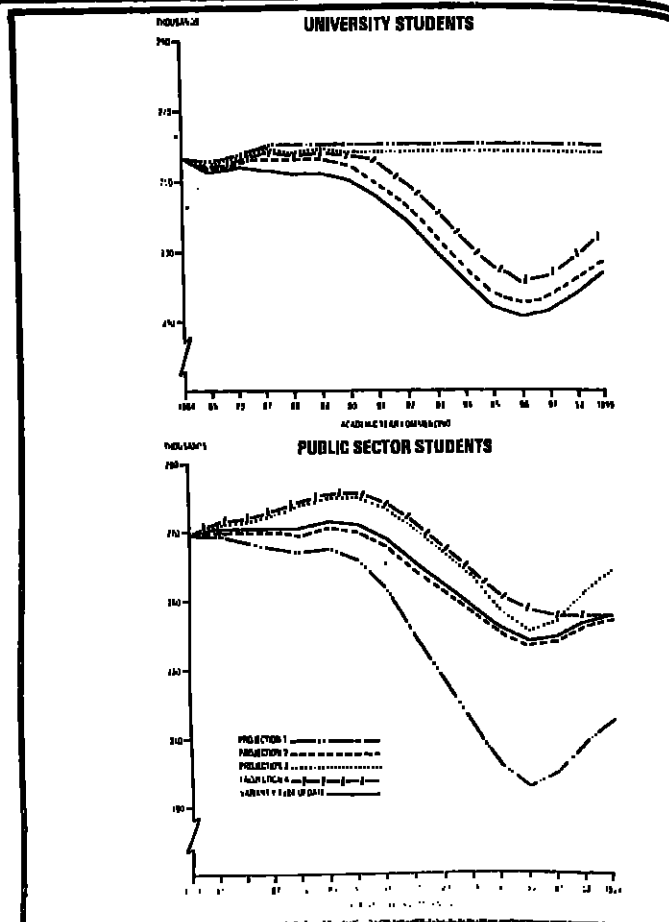
Projection 4: Medicine, initial teacher training, science and engineering as per Projection 1. Cuts divided between arts, humanities and social science in both sectors, with university share of young entrants rising until 1990/91 and then held constant. Total above updated figure for Variant Y.

There will be at least three general elections in the period covered by the report. But the issues are none the less urgent because of the knock-on effects of policy decisions to be taken in the near future, as the report amply illustrates.

An example quoted in the report is the impact of the Government's "switch" programme of £43 million support for engineering and technology. It is admitted that the 5,000 places to be made available will be offset in part by a reduction in demand for other courses, largely in the public sector. "A conservative estimate might be that only one-third of the 5,000 extra places would represent a net increase in student numbers," the report says. Since most of the places will be in the universities, the assumption is that university numbers will be increased by 4,000 from 1989/90 onwards, while the public sector figure drops by 2,000.

Although "Variant Y", the more pessimistic of the alternatives charted in the Green Paper and now the basis for all planning, assumes that the shape of the higher education system will not change, the four new projections would all alter the balance between the sectors. The meetings are designed to reach agreement on the optimum split, but decisions to be taken separately by the DES and the NAB will prevent some of this planning unless agreement is reached surprisingly quickly.

Because of the difference in average course lengths, brought about by variations in wage rates and the proportion of sub-degree courses, changes in the proportion of students in each sector brings about further changes in the total number of students. The DES also believes that a higher proportion of university places is associated with a small increase in the total demand for higher education.



Loading all the cuts on to public sector arts, humanities and social sciences is contemplated in two of the new projections, although the text of the report makes it clear that this is not considered a likely outcome. The projections do assume, however, that there will be sufficient demand for the Government's priority areas of science, engineering, medicine and initial teacher training to maintain or even increase enrolments in the face of demographic decline. The result of this questionable assumption is some increase on previous projections, since a

higher proportion of such cuts in the universities. Issues such as the likely number of postgraduates, part-time and degree students, demand for research and the effects of increasing competition for limited resources will make animals fight one another? Yet the fighting is almost always limited. The simple reason: one individual may not attack another because the risks from retaliation are too high. So simple, in fact, that it took over 100 years after *The Origin of Species* for it to be spotted.

The algebraist of evolution

Jon Turney outlines John Maynard Smith's career as a leading British exponent of neo-Darwinism and a pioneer in application of mathematics in biology and ecology

Nature red in tooth and claw is a good slogan but poor natural history. It is easy to see in the wild that animals of the same species do not fight to the death (upright bipeds with overdeveloped brains aside), harder to see why. If natural selection entails a ruthless struggle for survival, surely competition for limited resources will make animals fight one another?

Yet the fighting is almost always limited. The simple reason: one individual may not attack another because the risks from retaliation are too high. So simple, in fact, that it took over 100 years after *The Origin of Species* for it to be spotted.

The formal extension of this insight - in particular the idea that a set pattern of attack, retreat, threat or retaliation may be fixed in an evolutionary stable strategy (ESS) - was worked out by Professor John Maynard Smith, just retired from the University of Sussex. It is the best known work of a wide-ranging biological career, and of a lifetime's reflection on Darwinism and its implications.

Half that lifetime has been spent developing evolutionary and genetic ideas, but virtually all has been shaped by a conviction that Darwinism supplemented by modern ideas of inheritance is the best theory of natural origins.

Among a handful of great ordering principles in biology, evolution by natural selection is both the simplest in the abstract and the most varied in application. And John Maynard Smith has done most in recent years to extend its reach into new corners of the living world. Along the way, Darwinism has given much in return to its most stimulating English disciple.

A mixture of intellect and blasphemy was overwhelming

Most notably, it gave him a career which combines his three lifelong interests: in animals; in mathematics; and in the religious, philosophical or scientific accounts of where we come from. Smith, who has been called "the algebraist of evolution", brought all these together in his work.

Darwinism has also been a guiding threat in a life otherwise marked by striking contradictions. Maynard Smith is an instinctive rebel who has done his most fruitful work developing an established theory. He is the man with a longing for administration who was a successful dean at one university; a devoted theorist convinced of the crucial role of experiments in science; and an evolutionist reluctant to apply Darwinism to human affairs, who nevertheless sprinkles his writings with individuals labelled "hawks", "doves", or "bourgeois" from their behaviour.

The rebellion began at Eton, where he hated it. It was a conventional destination for a son of a well-to-do family whose father, a London surgeon, died when he was eight - whereupon the family moved to the West country and sent young John away to school. With characteristic precision, he says he was at first simply miserable at his prep school, and at Eton, being too young to really hate it until he was about 15.

At that time, he discovered the great biologist J. B. S. Haldane, the old Etonian who in the mid-1930s was "the man my teachers most hated". His essays were nevertheless in the school library, and made a lasting impact. As he told a BBC interviewer: "I can still remember the excitement of reading *A Possible World*. This mixture of intellect and blasphemy was absolutely overwhelming and I've been attracted to that all the rest of my life".

For the short-sighted, lonely, too-clever-by-half schoolboy, the encounter with Haldane helped turn a reaction against Eton into something more positive. It went to confirm his growing conviction that *The Origin of Species* was more persuasive than the Bible, and eventually turned him into a professional biologist.

But his family and the times delayed this for a decade. He went up to Cambridge in 1938 to read engineering, chosen as a mathematically based career which would avoid joining his grandfather's stockbroking firm, and around the same time joined the Communist Party. When he graduated, the pressures of wartime aircraft production, and the demands of political work, left little time for biology.

But although designing airframes helped hone his mathematical skills, it was ultimately unsatisfying because his poor sight barred him from flying. So he abandoned his first profession soon after the war and went to University College, London, to read zoology. He chose UCL because of its distinguished professor of genetics, J. B. S. Haldane.

It is scathing now about the quality of the teaching. "I think if I had known how really awful the zoology degree was at University College I might not have done it." But at least when he graduated, he was able to stay on and work with Haldane as a research student, and later a lecturer.

The relationship was close and distant simultaneously. Haldane's towering intellect, and especially his extraordinary gift for modelling real problems mathematically, was still very much to Maynard Smith's taste. And he was a fellow CP member moving, as Maynard Smith was, to disillusion and eventually to leaving the party. But he was a dominating, sometimes explosive figure who found it hard to manage close friendships.

Maynard Smith and J. B. S. used to write one another notes from their rooms on opposite sides of the same corridor. "Quite often he would write a note saying, have you thought of this? Or I would write asking him a question and the answer would be on my desk next day. It may seem weird, but Haldane did not always find conversation all that easy".

And what conversation they had was more about biology than politics. Maynard Smith was already starting to feel his work would lie in science rather than political activism when he went to UCL, and like Haldane, science played a part in his eventual break with the CP. The official Stalinist promotion of the ideas of Lysenko in genetics was hard to stomach. "It may seem a trivial issue compared with other things happening in the world, but it was one thing we did bloody well know about."

One doubt led to another, and ultimately to "a deep lack of confidence in my political judgement, my ability to take sensible decisions". But if one overthinks theory, or at least its other adherents, failed him, Darwinism still remained, and he started serious work in science with studies on the geneticist's workhorse *Drosophila*, the fruit fly.

Around this time, he also came under the influence of Peter Medawar, who arrived at UCL in 1951, the year Maynard Smith was awarded his second undergraduate degree. In many ways the opposite of Haldane - urbane, politically adroit, an effortless administrator - he shared his rationalism, and his wide philosophical interests. Above all, he had taken up Karl Popper's scientific philosophy, which



which Maynard Smith thinks good for biologists, with his tendency to sit around and argue in the abstract.

For Medawar's most striking characteristic as a scientist was his belief in experiments: "It is a scientific argument could be reduced to an experiment that could be done, there was no way you could get Peter to go on arguing until the experiment had been done."

His twin mentors left Maynard Smith in a curious position. He was philosophically convinced of the primacy of experiments, as he is to this day. But he was never terribly good at actually doing them. "I've never done a chemical experiment in my life that didn't boil over or something."

But if he could not emulate Medawar, who had a brilliant gift for thinking of precisely the right experiment, there seemed little point in focusing on theory. "As long as Haldane's around, you don't do theory - it's a waste of bloody time. Why keep a dog and bark?" So he began dutifully doing experiments on *Drosophila*, the work ranging over ageing, development, and population genetics. Solid, worthy stuff, good enough to secure his position at UCL, but nothing startling. He also showed the first signs of a talent for popularization in Haldane's trail - with a Penguin on evolution, now in its third edition.

Then, as now, he believed "the fundamental problems of science can be explained to anyone willing to make the effort needed to understand them", as he writes in a forthcoming popular text. *The Problems of Biology*. But popularization is not the basis of a scientific career, particularly for an ambitious biologist already heading for his forties.

He thought the teaching at UCL was old-fashioned

The break came with the move to the new university being carved out of the Sussex grassland in 1965, a decision Maynard Smith feared would harm his research. He went to have control over teaching undergraduate biology: "the only reason for going into administration is if there's something you want to do you can't do unless you run the joint." He thought the teaching at UCL was disgracefully old-fashioned and that he must either take the chance of going to a new university or stop complaining.

Experimentally, it did harm his research - it was hard to keep a laboratory going and run the department. But in the long run it proved a liberation. He was being driven to theory again in any case by Haldane's move to India and subsequent death. It was easier to fit in with administration. "And when I started doing theory I realized I was rather good at it."

Appropriately, it was theory solidly in the Haldane tradition. Maynard Smith relates how he took from Haldane's early essay *On Being the Right Size* the message that "there is a bridge between mathematics and natural history". Finally, he was ready to take this further. He was by now well equipped, from the years of problem solving at Eton, of pushing a slide rule in a design office, and of puzzling over the intricacies of evolutionary genetics. He was equipped also with a conviction that "before 1960 the average biologist was unbelievably woolly-minded in the way they saw selection". There was some excuse for this in the fantastic profusion of different organisms, life histories, and habits in the archive of natural history. "The difficulty with biology always has been there are so many goddamn facts". He set out to show this need not be a barrier to rigour, armed with what a colleague describes as an ability to sweep aside the detail to get to the core of a problem.

The style was shown by the book he published in 1968, *Mathematical Ideas in Biology*, where he examined questions like how high animals can jump through "thinking of organisms as simple machines obeying and constrained by the laws of classical physics", as Robert M. May writes in a Cambridge University Press collection in Maynard Smith's honour published last year.

But his most distinctive work was still to come. It concerns the management of conflicts between animals of the same species, and the way they can be understood by application of game theory.

Like many a striking formulation in science, the idea of an evolutionary stable strategy is a generalization of notions already appearing in work on "behavioural ecology" in the 1960s, work centring on explaining the advantage to the individual, as opposed to the group, from restraint in conflict.

Game theory itself had been developing since the 1950s, analysing situations like the classic prisoners' dilemma. Suppose two prisoners can either confess to the same crime or

keep silent. If one confesses, naming the other, the confessor goes free but his partner gets a long stretch. If both confess, both get short sentences. If both keep silent, both get a still shorter sentence. Yet although the last is the best option, the optimum choice for each individual, ignorant of the other's decision, is to confess.

These notions, properly worked out, were first used in evolutionary biology by William Hamilton, now at Oxford, with whom Maynard Smith's relations have been less than friendly. But their systematic application is firmly linked with the Sussex man's name.

This came about in a curious way. Maynard Smith refereed a paper sent to *Nature* in the late 1960s which hinged on the key idea of restraint as a hedge against retaliation. It was too long, and he advised publication elsewhere. He then spent some time in the US mulling over game theory and thought he saw how to formulate this more rigorously.

Making the bridge between maths and natural history

He looked for the original paper and found that its author, one George Price, had never published it. Price was to be found in Charlotte Street, London, a reclusive American working quite independently on biological theory. There Maynard Smith sought him out, and they wrote a famous joint paper which appeared in 1973. Price was clearly a gifted thinker - another paper of his in genetics has recently attracted attention - but underwent a religious conversion just when the ESS paper was being prepared. Price the newly born Seventh Day Adventist insisted *Nature* change "dove" in the hawk-dove game he and Maynard Smith had invented, to "mouse" throughout. He died by his own hand later in the 1970s, to Maynard Smith's evident distress.

But the science went on, and the idea of the ESS proved remarkably fruitful. In its most general form, it simply says: "Whenever the best strategy for an individual depends on what others are doing, the strategy actually adopted will be an ESS". It is the strategy which, adopted by the bulk of the population, cannot be invaded by any other, more advantageous for the individual's genetic fitness. Although most evolutionary games are highly complex, there are examples which fit the simple pay-off tables of game theory well enough to make that ever-satisfying bridge between maths and natural history.

Maynard Smith had not expected such a wide scope for the idea. "Life is difficult for a theoretician because you don't know what you're going to be able to solve. And if the problem does turn out to be soluble you never know whether the solution will turn out to be exciting". The work on ESS came to seem important as "I discovered over the next few years that more and more problems seemed to fall apart under that particular way of looking at them".

But it would be wrong to see the ESS as his only contribution. Maynard Smith's influence ranges far and wide, not just through his publications - "many of his papers could start off a cottage industry", according to a close colleague - but through the stream of post-doctoral students who visited Sussex in the 1970s.

He regrets that the centre of British work has now shifted from Sussex to Oxford. And he is more resigned than regretful about the attacks on evolutionary theory from outside professional biology, currently at one of their periodic peaks.

"You ignore them. You get penitent, as I'm liable to do." More difficult are the opposing positions in the often heated debate over "sociobiology" - the attempt to account for human behaviour through a gene-centred view of evolution. Maynard Smith is highly sceptical of such attempts, and scathing about fringe interpretations which use them to justify the social status quo. But he is equally at odds with attacks on Darwinism from the left because of such claims. "You can't decide to rewrite biology because you think some bits of biological theory might give comfort to the enemy".

In the end, his answer to all these factions would probably be the same as his verdict on so many biologists: "No one has any excuse for being woolly-minded now". Not in the territory John Maynard Smith has traversed, anyway.

Maggie Richards reports on the progress of a PICKUP scheme to expand links with industry

Just over two years ago, Sir Keith Joseph mounted the platform in Coventry to announce the launch of a new collaborative educational initiative.

The Secretary of State for Education was present to inaugurate the Coventry Consortium, a combined attempt by the city's further and higher education establishments to expand their training and consultancy work with industry. The consortium was to be armed with an £84,000 grant under the auspices of PICKUP, the programme of professional, commercial and industrial updating sponsored by the Department of Education and Science.

This month Sir Keith chose to return to the subject of PICKUP, this time to exhort other institutions throughout the country to follow the example of the Coventry Consortium. And, in the text of his speech delivered recently to the North of England conference in Huddersfield, he set colleges, polytechnics and universities a new target - a five-fold increase in their post-experience vocational output.

It may be that Sir Keith's enthusiasm for PICKUP had been kindled by a DES-commissioned report on the Coventry Consortium which crossed his desk this month. To compile it, a project team spent three months probing the operation of the consortium's central unit; visited nine manufacturing firms which had participated; and toured the five educational institutions involved in the scheme.

The team's conclusion was that the consortium had been a resounding success, benefiting both the companies taking part and the educational providers.

The Coventry experiment began in early 1983, and was at that time unique in mobilising the entire resources of further and higher education in one locality, in conjunction with the local education authority.

Coventry, in 1983, had been badly affected by the recession. Numbers of workers employed in manufacturing industry had fallen dramatically over several years. The workforces in many of the city's largest firms had been shrinking at an alarming rate with one large company experiencing a drop from 30,000 to 5,000 in under a decade.

While the effects of the recession were dire for industry, they also led to repercussions in the education sector -

Sent to Coventry on a tide of success

particularly in the non-advanced area, where the steady supply of apprentices slowed to a trickle, then almost evaporated. Higher education could depend to some extent on a national catchment area, but the colleges increasingly found themselves vying for students.

At the same time it was apparent that new training needs were emerging. The newly trimmed companies were chasing increased efficiency and greater productivity - and determined to utilize new technology to get it. Through its central unit, the Coventry Consortium became a vital link, a focal point through which the training demands of industry could be channelled to the appropriate institutions and, in return, the educational opportunities available in the city's further education colleges, at its polytechnic and on its university campus could be conveyed back to companies.

Once established and launched into a steady orbit by Sir Keith, the consortium set about organizing two types of courses. Specially designed "closed" courses were tailor-made for individual companies, while the more traditional types of "open" courses were extensively publicized.

Initially, 90 per cent of the consortium's provision was "open", but as companies have become aware of the capability of the institutions to cater to their individual needs, the demand for tailor-made training has increased. Currently 80 per cent of courses mounted by the consortium are operated on a "closed" basis.

As a further development, the central unit is now expanding its consultancy work with industry. It has dis-

covered many smaller companies are anxious to experiment with the application of new technology, but lack the necessary equipment or are nervous about making a huge new capital investment without any prior experience of what is involved. Many of the consortium's institutions already possess the technology and can provide suitable expertise to advise firms.

At present consultancy services form about 10 per cent of the work of the unit, but staff there are excited about the rate at which it is growing, and already anticipate a doubling of the activity by the end of 1986, making the area a major source of revenue. The question of income has been a crucial one. Mindful of Sir Keith's insistence that all PICKUP activities should ultimately be self-financing, the consortium originally sought £200,000 in grant aid from the DES.

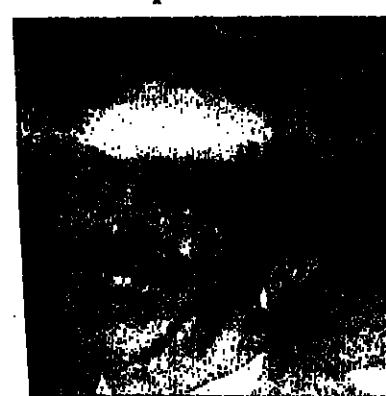
Of the final award of £84,000 only £4,000 now remains. But in just its second year of operation the consortium has netted a total of £130,000 in return for its short course provision and consultancy services.

Apart from charging a 10 per cent slice for its administrative overheads, the unit has passed all monies received back to the institutions.

Mike Musson is one of two principal executives responsible for the day-to-day running of the unit. He explained: "We are a non-profit making, but full cost operation. We have to break even. When we make a submission we price in such items as labour costs, materials, equipment and institutional charges, so it is the institutions which benefit from any profit. The unit then charges an additional on-cost contribution, amounting to 10 per cent, which is intended to keep the unit functioning."

To further boost its income, and generate some resources to develop new work, the unit has become actively involved in the overseas market, developing training programmes and consultancy services to appeal to customers abroad.

By far the biggest earner to date has been the Higher Education Foundation Programme, a consortium initiative which again draws on the combined expertise of higher and further education in Coventry. The programme offers overseas students an intensive one-year higher education pre-entry course, with special emphasis



Sir Keith: enthusiasm for PICKUP as a language tuition where necessary.

This year, fee income from the overseas branch of the consortium has brought in £400,000. But Mr Musson contends the impact has been far greater.

A consortium survey of overseas students participating on the programme showed that their external spending amounted to £2 for every £1 of fee income gained, resulting in a massive injection of £800,000 into the local economy.

Despite its commitment to winning overseas markets, the unit is very conscious of its primary function. "Our raison d'être has been to support the local economy, and we have not lost sight of that," Mr Musson said. "We are using the overseas market to generate sufficient income to make ourselves self-sufficient, and assist institutions, but it will always be a secondary area of activity. The consortium's first priority is to help industry develop, both locally and regionally."

The DES-commissioned report on the consortium cites some of the major benefits accruing both to industry and the educational institutions.

From industry's point of view the consortium has been able to provide tailor-made training at a rapid pace. The response has also been flexible, taking institutions outside the restraints of the academic year where necessary, and into company premises for tuition if required.

Increasingly, industry in Coventry has come to recognize the high standard of professionalism which accompanies consortium training programmes, the report says.

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A Review of the Coventry Consortium report of a project undertaken by the DES. Published by Guildford Services Ltd, 164 High Street, Guildford GU1 3HW.

Polytechnics are paving the way for closer European co-operation. Carolyn Dempster reports

Past... want a passport to success in the 21st century? Got a flair for French, Spanish or German, a yen to travel, motivation, a mature outlook and a head for business? Bien sûr. In that case, why not become a Euro manager?

Few career counsellors would think of imparting this advice to linguistically oriented A level students unsure of which career path to pursue. Fewer still, it would seem, are even aware of the emergence of what has become something of a phenomenon in the higher education sphere – the European Business Programme.

Not many education sectors can boast of a student demand which far exceeds the supply of places available, an employment market which virtually guarantees a job upon graduation, and the kind of qualification which affords the graduate the scope to choose to work and live in any one of 10 or 11 countries. Yet this is already the case with the majority of EBP courses, in spite of the rather reticent approach to marketing which is peculiar to British educational institutions.

Even if careers counsellors have been slow to spread the message, school-leavers with the requisite skills and an eye to the future have been quick to assess the value of programmes which offer an integral European dimension. The shift in Britain's trading focus to the continent and the country's increasing interdependence in international trade within Europe over the past couple of decades has opened up horizons and created new emphasis. The harsh realities of unemployment and the slowly rising status of business studies has forced pupils, if not their parents, to rethink their education in vocational terms.

Sean O'Hanlon, a third-year BA European business administration student at Middlesex Polytechnic and the "bright star" of his Scottish family of five says intense pressure was brought to bear on him by both his headmaster and mother to attend university rather than a polytechnic.

To please them he looked around at a few universities, liked the campuses but not the courses, and opted for BAEBB. "It's the perfect course for somebody who wants to use their



Students of Middlesex Polytechnic's business administration course: talking the European language

First with a Channel link

cultural and traditional backgrounds. In addition, the UK institutions had to contend with the ruling that students who spent more than a year outside the country could only qualify for discretionary, not mandatory grants, said Mr Earls. "This set the tone for the other polys."

Not unsurprisingly, given British society's anti-business bias, it was the polytechnics and colleges of higher education which led the field in the development of European business studies courses in the late 1970s, among them Buckinghamshire, Humber, Trent and Leeds. The universities, says Mr Earls, responded to the new initiatives by attaching languages to business studies courses without any real attempt at integrating the European dimension. The philosophy underlying the EBPs clearly excludes the perception of "either business studies with a language" or "a language with business studies", no matter that there is no agreed curriculum for an EBP.

Universities have not gone down the line of double qualifications either adds Mr Earls, referring to the advantages to be gained in securing two degrees which are recognized and accepted in two countries, as offered in the Middlesex degree.

Also central to the success of a European business programme is the "appropriate combination of academic and business experience" stresses Mr Ray Lye, principal lecturer in European Business at Trent Polytechnic. This hinges on the philosophy of business education as being for rather than about business practice – which is why the placements, with all their attendant problems – are crucial to the courses. From the students' perspective,

the opportunity to live and work abroad is often the most attractive feature of the course.

Chine Butler, now in her third year at Middlesex, was thrown in the deep end at ESC Reims, spending her first two years of study in France having never been away from home before. Her first placement was in the marketing department of a pharmaceutical firm in Paris. "First of all their teaching methods were completely different. I had to learn how to write essays again," she recalls. Of her six months placement experience, she says she found she could operate successfully in a different culture, communicating at executive levels with increasing ease, and as an employee rather than a trainee.

Students on the International Marketing BA course at Thames Valley spend a full year abroad in an industrial placement. Although the course, with its international emphasis, does not fall strictly within the Euro manager concept, placements have been primarily within the EEC, and have been part of the programme since the mid-1960s. Languages division head Irene Wells who has spent the past 20 years preparing students for the placement, and then visiting them on site to assess the employer, employment situation and integration of individual staff placements are often "exceptionally successful".

The student is forced into a position where he/she has to communicate constantly – escape into silence and isolation is usually impossible. Most traineeships are paid which means students for the first time feel totally independent from their parents which, together with the responsibility of the job contributes to a rapid maturing

process. After three months abroad they are mature adults. Their entire attitude to learning and studying has changed."

The visits perform a multiple function. For the staff it is an opportunity to update industrial knowledge, the exposure to current business practice is used in course revision, and the poly keeps tabs on employers who may be prone to exploit the traineeship. The culture shock of an alien environment, with anxieties attendant on having to find accommodation, seems to be lessened by the knowledge that the placement provides a unique opportunity and because of a high level of motivation among the students.

"I felt as if I had a job. I didn't want to leave. For me the most difficult part of the whole placement was re-adapting to the UK and college life," said Adrian Knight, who spent his year with Austin Rover in Paris as part of the international marketing programme. Philip Lamerton, a mature student who applied to do the course after six years' work experience in small UK companies, stated that his year as a marketing assistant for a frozen foods company in Madrid was the most enjoyable job he had ever had. "I had more responsibility after a few months than ever before, and I was doing things I was interested in."

The other side of the coin, in programmes such as Middlesex, is the observations and experience which foreign students bring to bear. Fabrice Colas from Paris, now in his third year of study at Middlesex, was motivated to do the programme after talking to several BAEBB graduates "at some length" at an exhibition in Reims. In France, unlike Britain, the course is well marketed and students play an

active role in promotion at schools and at the business interface. Gerard Earls is concerned that companies are not taking up the challenge in terms of sterling salaries. He believes this is part and parcel of cultural heritage which dictates that classicist is of as much worth, if more, than a business studies graduate.

Evidence that the EBP graduates are "snapped up" almost as soon as they leave full-time study is borne by the experience of the European Business School, with centres in London, Paris, Frankfurt and Madrid. Peter Coen, director of the Leamington Centre of EBS, says there has been 100 per cent employment, with companies enquiring well in advance of graduation about potential candidates for employment.

EBS students could be regarded as the "creme de la creme" of Euro managers. Upon graduation they are usually able to secure jobs at starting salaries worthy of executives in their thirties.

"It is not enough for the Euro manager to be a Briton who is Francophile," says Mr Coen. "He is lots of people in the UK who have good bilateral understanding of another country. The Euro comes from understanding cultural diversity, an understanding of the groups and a realistic sense of what is possible in terms of managing Europe either products or operations."

The European Commission has been generous with encouragement and funding for joint study programmes, and has done its level best to remove barriers in the way of mobility and exchange of experience.

Yet in spite of this, the money demand from school-leavers – particularly women – which results in a place on a course being in demand at a level of 100 applications to one place, suggests a demand for the European Business Studies programme has dwindled over the past few years in the United Kingdom. The answer, says Ray Lye, lies in the severe financial curbs imposed by the Department of Education and Science in pursuit of public sector funding. "The NAA is a supportive, even though it tends to give approval to the course, restrictions are being imposed."

Without the complete financial independence in 1912 at the age of 21, he was faced with the choice of continuing with book binding or striking out as a scientist. He chose the latter and approached Sir Joseph Banks, president of the Royal Society, in the hope of patronage. In the 19th century, such an approach was by no means unusual; Banks had previously helped a number of young men to make a career in science. In Faraday's case, however, he expressed no interest.

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Experimental man

Frank James reassesses the life and work of Michael Faraday

None was available in 1812 but the following year Davy remembered Faraday and offered him work as a laboratory assistant. Shortly after this Davy and his wife, taking Faraday with them, went on the Grand Tour; the first time in 20 years that English people could do this after Continental revolution and war. In France Faraday had his first taste of scientific research when he worked with Davy on showing experimentally that iodine was a chemical element.

They returned to England in 1815 and Faraday resumed his position at Albemarle Street. At that time the Royal Institution also undertook a considerable amount of consultancy and analytical work. This appears to have occupied much of Faraday's time. In this connection, after a series of mine explosions in the North-East, Davy was asked to investigate the problem of how to illuminate mines safely. With Faraday's assistance,

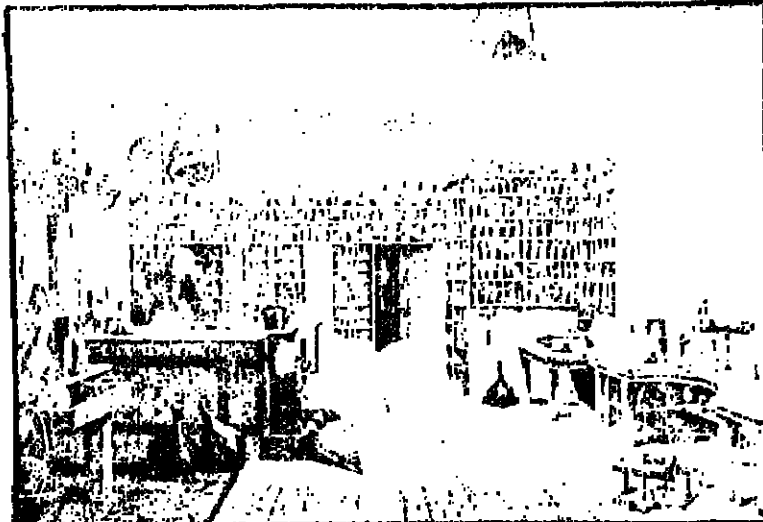
But it was the experimental exploration of nature that was of fundamental importance to Faraday. In 1820 the Danish scientist Hans Christian Oersted observed that a magnetic compass needle was deflected if it was placed near a wire carrying an electric current. This discovery of the link between electricity and magnetism was subjected immediately to intensive theoretical and experimental investigation. Davy and Faraday took particular interest in this phenomenon. On the third of September 1821 Faraday commenced a series of thought and real experiments on electrostatics which ended that day with his discovery of electromagnetic rotations. A wire carrying current revolved round a magnet placed in a bowl of mercury – the first electric motor. This discovery has had many important consequences, but two should be mentioned here. First, a

M. Ampere, who had been working theoretically on electromagnetism, was forced, because of the rotations, to abandon his physical theories of electromagnetism. He concentrated instead on describing mathematically electromagnetic phenomena, that is, in his 1826 treatise on electrodynamics which led James Clerk Maxwell to call Ampere the "Newton of electricity". This episode also reinforced Faraday's distinctly ambivalent attitude towards the mathematical description of nature. In this case the inability to predict the phenomenon of electromagnetic rotations from his theories supported his confirmed belief that only the experimental exploration of nature could provide firm knowledge about the world.

The second consequence of Faraday's discovery of rotations was that it led ultimately to his estrangement from Davy. Davy had become the president of the Royal Society in 1820 and was trying to reconcile the conflicting interests that existed in the society. It was thought by some fellows that Faraday's discovery of rotations moved his election to the society. However, others, deplored Faraday's originality and priority. Davy was caught in the middle and was forced to oppose Faraday's election.

Nevertheless Faraday's position at the Royal Institution was secure and during the 1820s he expanded its activities founding the Friday evening discussions in 1825 and the Christmas juvenile lectures in 1826 both of which continue to this day. In the late 1820s he worked on trying to make optical communication messages quickly over long distances. He was successful in inventing the electric telegraph. The first telegraph line was laid in 1838 between Paddington and West Drayton along the new Great Western Railway. In By the 1850s a cross-Channel telegraph had been laid and work on the Atlantic telegraph commenced. Within Faraday's lifetime, messages that would have previously taken weeks or months to send could be sent in a few seconds.

While Faraday did take an interest in the technological applications of his work, his main interest remained firm-



Faraday's laboratory at the Royal Institution

former. As a result of this work he also discovered the dynamo which became the chief means of producing electricity.

Thus he had invented all the devices that were to form the basis of electrical engineering for the remainder of the 19th century and into our own. The impact of electrical engineering on society was immediate and grew rapidly. Apart from specialist signalling/ semaphore devices that were used by the armed forces of France and Britain, the maximum speed at which messages could be transmitted was named restricted to the distance a horse could cover in a day. Charles Wheatstone, professor of experimental philosophy at King's College London and a friend of Faraday's, saw the possibility of using electricity and the devices invented by Faraday to communicate messages quickly over long distances. He was successful in inventing the electric telegraph. The first telegraph line was laid in 1838 between Paddington and West Drayton along the new Great Western Railway. In By the 1850s a cross-Channel telegraph had been laid and work on the Atlantic telegraph commenced. Within Faraday's lifetime, messages that would have previously taken weeks or months to send could be sent in a few seconds.

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ly in the experimental exploration of nature. His electrical discoveries in the early 1830s led him on to discover the laws of electrochemistry. To his demonstration that electricity from whatever source (magnetic, animal, static etc) was the same phenomenon (something that had been in doubt) and to a detailed consideration of the nature of electrical charge. This latter work epitomized Faraday's attitudes towards his experimental explorations. By his construction of the "Faraday cage" in 1836, Faraday secured a small volume of the universe in the lecture theatre of the Royal Institution from the electrical influence of the remainder of the universe. Using this he was able to challenge the prevalent two-fluid theory of electricity.

From the mid-1830s Faraday rejected explicitly the notion that material atoms were hard solid lumps of matter like billiard balls on a smaller scale. He also had serious doubts about the conventional view of the nature of light. This view stated that light was a transverse undulation which vibrated in an elastic solid aether. Faraday sought to dispense with the notion of hard material atoms and, eventually, also with the aether; there was, in his view, no experimental evidence which demonstrated the existence of these entities.

Instead of material atoms Faraday proposed, in 1844, the notion of immaterial point atoms. These were the centres of the forces which acted on the atoms. One consequence of this was that all atoms should be structurally similar differing only in the intensity of the forces of which they were the centre. In the case of magnetism however only three metals – iron, nickel and cobalt – were known to possess magnetic properties; such a selectivity for a force of nature Faraday found puzzling. During 1845 he sought to make magnetism a force universal to all matter. In September he passed a beam of polarized light through a piece of heavy glass placed between the poles of a powerful electromagnet. When he turned the current on he observed that the state of polarization of the light changed – the magneto-optical effect, now called the "Faraday effect". This showed Faraday that glass was susceptible to magnetic force; if glass was susceptible then all matter should surely be susceptible to magnetism.

Faraday's discovery of the magneto-optical effect enabled him to articulate his criticism of the aether – his *Thoughts on Ray vibrations* of 1846. This and his discoveries of 1845 led Faraday to develop his field conception of forces in the following 10 years. This was one of the inspirations behind Maxwell's mathematical electromagnetic theory of light.

Central to all of Faraday's work was the supremacy of experiment. Very few scientists leave evidence of how they work with experiment. Throughout his career Faraday kept a detailed experimental diary, which runs to seven large printed volumes. By studying his method of working we can understand the role that experimentation plays in producing knowledge. Its role is not confined simply to a passive confirmation of falsification of theories, as many fashionable philosophies of science suggest, but to an active experimental exploration of phenomena.

The author is secretary of the Royal Institution Centre for the History of Science and Technology of which he is also a research fellow. With Dr David Gooding, he has recently edited a volume of essays entitled *Faraday Re-discovered*.

Interpreting God's world

In an opinion poll published in *New Scientist* last year, it was revealed that Michael Faraday was the seventh most well known scientist in this country. The only surprise is that he should come so low. If we think of quite normal daily actions that we now perform (starting a car, making a telephone call, switching on a light and so on) then it is clear that the technological application of Faraday's discoveries have had an impact which he probably never envisaged. It is, however, reported, probably apocryphally, that when asked by Robert Peel, then Prime Minister, what use the dynamo was, Faraday replied that he did not know but added "I wager that one day your government will tax it".

Faraday's most important inventions and discoveries can be simply listed in order as the electric motor, the transformer, the dynamo, the laws of electrochemistry, the magneto-optical effect, diamagnetism and field theory. Each of these has had an impact such that it would be impossible to imagine now that the world would be like without them. It is tempting but naive to ascribe to Faraday the construction of the modern world. Many millions of people have taken part in the development and application of electricity for everyday purposes. The elaboration of Faraday's field theory has occupied some of the finest minds since his time. Because of these consequences of his work, Faraday does occupy a unique position in our cultural heritage. Yet curiously he has been little subjected to the thorough scholarly study which has been the chief virtue of recent history of science. Instead he has been subjected to various mythological interpretations, mostly in biographies, with the necessary evidence badly documented if at all. These interpretations have tended to cast Faraday in whatever role was required by the authors' beliefs ab-

out the nature of science. To take three examples: Benet Jones offered genius as the explanation of Faraday's creativity; Pearce Williams argued strongly that in his youth Faraday learnt about the theory of immaterial point atoms and that his subsequent experimental work was directed by his theory; Morris Bernman interpreted Faraday as a tool of the rising middle classes in their taking over the governing of Britain.

Faraday is of intrinsic interest beyond the myths which obscure a full appreciation of him. How did a blacksmith's son become the greatest experimentalist who has ever lived? How, after being apprenticed at the age of 14 as a book binder, was the Fulham professor of chemistry created especially for him at the Royal Institution of Great Britain? He had an ability, which he retained all his life, to use his hands to manipulate apparatus; this was an extra sense which very few of his contemporaries used as they were happy to rely on visual (and occasionally aural) observations. It is quite striking how in so many of his experiments Faraday made himself part of the phenomena he was studying. In his famous cage experiment of January 1836 he constructed a 12-foot cube "In Nature's School" in which he investigated electrostatic charge. As he put it in his *Experimental Researches in Electricity* he went into the cage and "lived in it" using "lighted candles".

The third reason why Faraday is important to study is that he provides an unambiguous case where it is quite evident that there was no conflict between science and religion contrary to the popular and misleading image developed in the late 19th century and perpetuated in popular images of science and religion to this day. Quite the contrary, Faraday's religion was the most important resource on which he drew throughout his life. As a Sandemanian, Faraday did not seek to prove the existence of God by appeals to nature – a fashionable and somewhat self-defeating activity during his lifetime. He sought instead to explicate the world which he knew God had created.



Faraday: ability to use his hands

ists. Finally Faraday's scientific career was probably advanced by his taking very little part in the running of the scientific establishment of the day. He confined his administrative duties to running the Royal Institution; while there are many convincing reasons why he did not take on other jobs (for example the presidency of the Royal Society in 1857) – Faraday himself nearly always used his Sandemanianism as a justification.

The task of the historian is to develop an understanding of how events happened. Individuals are immersed in the context in which they live and it is the duty of the historian also to immerse him or herself in that context. While we will never be able to develop a system of representation which describes another individual's thought we will at least be able to demythologize people and events and so achieve a clearer perception.

Harold Silver

Higher ground captured in battle for the printed word

One of the last conservative battles, one that will be imperative to win, will be in defence of the book. Not that the statistics make the battle seem all that near. Peter Curwen explains to us in *The THESE* (January 2) the intricacies of the 50,000 annual titles in Britain and the £20 average academic book. Frank Newman's new Carnegie report on *Higher Education and the American Renaissance* reminds us that the number of scientific and technical titles published in the United States grew from 3,000 in 1960 to 15,000 in 1980. As technology makes the campus and the world secure for ever more complex communication, for rapid access to increasingly useful data bases, for the soft touch of package ware, the book shows us yet no sign of a final exit. The pressures mount, however. The nature of access to information, Newman suggests, makes the term "library" out of date. Academic activity is increasingly through "scholarship information systems". Costs, shelf space, electronic conversation, the urge of the new, put the book on trial.

A report on the University of Maryland, long in the eye in 1981, asserted confidently on evidence that "the print media, and especially books, will never disappear". Two pages later it confessed that "the book is taking new forms - as a 3 x 5 inch microfiche or five feet of computer tape". Half a decade later the new forms are more prominent, and the royalties on academic books are more insignificant. Peter Curwen, eyeing the unceasing proliferation of book titles in Britain, asks coyly if academic publishers "may be tending to reduce print runs in the face of over-production of titles". The reverse is perhaps the case - since fewer copies are being sold, publishers go for more titles.

Let us not be sanguine about the permanence of the book. It may yet fall victim, less perhaps to aggression than to attrition.

Someone out there is buying books, but I am not sure who it is, particularly in the case of academic books. Libraries haven't the space or the cash - and need fiche and tape. There are fewer staff, fewer students buying books out of reduced resources, fewer impulsive

There are spaces where once were people

buyers - and more titles. It is not more difficult now, I am assured, to have manuscripts published than it was in a more affluent (and perhaps even more literary or literate) past. So, more titles, fewer copies.

Education, as always, is a special case, and the contractions have been particularly severe. Where have all the markets gone? Colleges of education, once full of little bookshops, and piles of set texts, are either depleted in numbers beyond recognition, or long vanished altogether. And Sir Keith is now waiting for his department to extend the area of oblivion. In the polytechnic, university and college departments that remain there are spaces where once were people, who read, bought or resold academic books - as, of course, is true of other departments, depleted in staff, and students depleted in numbers and incomes.

One casualty for some publishers is the boundary book, one which is not central to someone's (a lot of someone's) course, or in a recognizable discipline or academic passion. There are, naturally, exceptions, courageous gestures, mistakes.

In education the signals are on the whole good

I have been looking at some education books published in recent months. Some publishers, Crown Helm for instance, have made extensive forays into the field (in the case of Crown Helm, it appears, not to be sustained), with standards of material and presentation often jumping unpredictably between the high and the depressing.

Open University Press has the prize for the worst produced of recent books, one on research printed on what looks like recycled cardstock (some excellent books in various fields have suffered similar fates in recent years - for example Barbara Taylor's superb *Five and the New Jerusalem*). Inconsistency comes in various guises, including the occasional breathtaking ugly cover or jacket from respected university presses.

In education, however, the signals are on the whole good. Much continues to produce readable and presentable texts in education and related fields - such as Rob Walker's *Doing Research* or Geoff Whitty's *Sociology and School Knowledge* or Paul Atkinson's book on Bernstein (though this with a cover that won't win them any prizes). At the "scholarly" end of the market (books by Orme and Coburn, for instance) Methuen still knows how to produce the most distinguished looking books in the field. Routledge, before their capture for the ABP (including Methuen) stable, have been through some risky though often courageous times - rushing headlong into serials, bound typescripts, and titles in all nooks and crannies of the education system.

Education scholarship survives, sporadically elsewhere; at the university presses most often when it can be offered as history or some other more prestigious discipline. Other publishers make the occasional foray. But the prize for 1985 beyond doubt goes to Falmer Press. They have to be forgiven for some failures of judgement by an occasional volume of judgement as the flurry of Falmer educational books recently and currently emerging reaches unexpected heights. The books are timely, in areas academic and professional need, and sustaining an intention to conquer but also to expand the market. The formula is a strange one for our late 1980s situation - lively books, present in formats, to find a new book on the curriculum, schooling and welfare, private education, independent schools, school effectiveness, educational research... In formats, well designed, pleasurable to hold, tempting to buy, on high quality paper, with sensible layout and typography and delightful covers, would be a treat in one instance, but in dozens of them it is a feast and an enigma. Falmer is suddenly not just an important educational publisher but also a pace-setter in publishing quality.

Unwittingly any publisher who cares about such things may be part of the inevitable campaign, even crusade, to defend the book. It is a crucial element in the morale of purchaser and reader. It strengthens the unique relationship of reader and printed page, establishing the conditions of co-existence with new technologies, the battle will be won only with books that are recognizable as important to read, but also as pleasurable to hold, and - who knows - even to possess.

Book that rewrote history from the bottom up

Political and academic thought of the 1950s and 1960s regularly ignored, denied and/or misrepresented the contributions of the lower classes to the making of modern freedom was due to the rise of bourgeois out of the Renaissance and Reformation was reproduced in particular ways in the works of both liberals and Marxists.

Liberal writers celebrating the democratic polity of the Cold War West tended to equate its development with the ascendancy of middle-class elites and argued that the persistence of limited popular participation in politics. From their perspective, labouring classes, historically had been the primary supporters for authoritarian movements and regimes and thus their active participation in post-war politics portended the electoral success of communist parties and the inevitable displacement of democratic freedoms by totalitarianism.

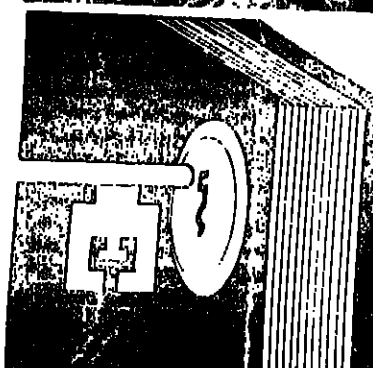
Orthodox Marxist writers had their own version of history and politics which was, nevertheless, quite similar to the liberal one. Democratic freedoms were deemed to be merely "bourgeois" freedoms and, following Lenin's argument, the working classes on their own were viewed as incapable of making the social order and thus had to be led by the "party" and middle-class theorists. New Left theorists did not work of working people - being co-opted by the industrial capitalist economy and culture and searched for alternative political forces like third world peasants and western middle-class students.

Mainstream historians offered little challenge to these interpretations and polemics. To credit historians regularly treated the "emergence" of the working classes in narrowly economic and statistical terms, and social historians and historical sociologists working from the perspective of modernization theory and structural-functionalism viewed the 19th-century labour struggles as merely the immediate expressions of the process of industrialization and urbanization. Labour historians too had a narrow view of working-class activity and struggle, limiting their studies to organized workers, their organizations and leadership.

Yet at the same time there began to be articulated an alternative approach to the past which has come to be known as "history from the bottom up". Perhaps the finest statement of this approach, or perspective, was offered in the 1930s by Walter Benjamin, who argued that history will have the gift of naming the spark of hope in the past who is firmly convinced that *even the dead will not be safe from the enemy (the ruling class) if he wins. And the enemy has not ceased to be victorious.*

But the actual development of this perspective is rightly associated with the British Marxist historians who were members of the Communist Party Historians' Group in the years 1946-56. Among others, they include: Rodney Hilton, Christopher Hill, Victor Kiernan, George Rudé, Eric Hobsbawm and E. P. Thompson. Their numerous writings have uncovered and reappropriated the experience of peasants, common people, and workers in England especially, but in Europe and the third world as well. Along with the tremendous scholarly inspired, their efforts have transformed historical studies and had a major impact on our understanding of the role of the lower classes in history and the making of the modern world.

No doubt the single most influential work of the group has been Edward Thompson's *The Making of the English Working Class* (1963), hereafter *The Making*. It is a study of the formation and coming to consciousness of that class from 1790 to the early 19th century, culminating in Chartism - the first working-class political party (on which I keep it in the family, see Dorothy Thompson's recent book *The Chartists*). The preface to *The Making* is probably the most quoted from piece of historical thought today. Therein, Thompson challenges the static conception of class offered by sociologists in stratification studies. He insists that class is an historical experience and relationship and that



Harvey Kaye on E. P. Thompson's *The Making of the English Working Class*

Class formation is an historical process, moreover it is an "active process" which - at least for the English working class - "owes as much to agency as to conditioning".

He also faults economic and social historians for their inadequate understanding of class experience and their blindness to the agency and creativity of the working class in struggle. Finally, he chastises those who have subjected to *criticism* the conception of class and class forces that Thompson advanced in the book one which he shares with his British Marxist historians and developed further in a series of century studies written in the 1960s and 1970s. For Marxist 1970s Thompson's *Agency* and *Conditioning*.

A more tenable criticism of Thompson's book which has been voiced on different occasions by Perry Anderson, Craig Calhoun, Gareth Stedman Jones, Richard Price, and (eventually) Hobsbawm, deals with the question of the degree to which the English working class can be said to have been "made" by the 1830s.

The introduction to *The Making* is a defence of the development of the working class as a historical process of making and remaking of the class, but what is actually called further historical attention to the difficulties and discontinuities as the generations of workers between the 1830s and the 1880s.

Yet another critique which has been directed at *The Making* involves "politics" and that of history from the bottom up more generally. History that such work is naively intended to inspire contemporary struggles of historical example. Admittedly, it is problematic, but there is a political value to be found in the book from the bottom up than that Thompson's book contributes to the history of historical remembrance.

There I heard From mouths of men obscure and lowly, truths Replete with honour, sound in fact With loftiest promises of good to come. The author is a notable professor of social change and development at the University of Wisconsin, Ray.

Ill-read and intellectually naive, I went up to Oxford to read English at 24, an age at which today's post-graduate can be fearfully professional. I had left school at 16 to become a trainee reporter on local newspapers, and had spent eight or nine years in Journalism, National Service with the RAF and travel. Steadily the desire to study literature - to learn to read - had become irresistible. There was no abrupt conversion, merely a blend of persistence and tentativeness closer to a more fortunate Jude the Obscure than to the accelerated progress of the brighter students nowadays.

I can date precisely the beginnings of an adolescent intoxication with literature. Given a week's break for the Queen's coronation shortly before I was to sit O levels, I took some hours off from revising the physics of heat, light and sound in order to re-read the set play, *Julius Caesar*. I had already begun to enjoy the action of character on character, but on that reading the language raved me to ecstasy. It was a naive enthusiasm but I felt something of the heightened consciousness which great writing can instill.

Even so, it took me years to find my way. The major turning point came a mile from Belton, with tank guns sounding off all round and German soldiers marching past in time to their singing. This was the unlikely location of an Army education centre to which I, as a 22-year-old national serviceman, was sent for a month's private study. Conspicuous in RAF blue, I had to be punctilious in saluting even the departing backsides of distant officers, but there were 12 hours a day free for reading, and

During the last 10 or 20 years numerous attempts have been made to forge new and improve existing links between higher education and research institutions and business, industry and government bodies. Sadly few enduring structures have resulted. The much vaunted fund of unharmed potential which would be released through more formalized co-operation between those with knowledge and those who use it has never had a full opportunity for realization. However, the latest wave of enthusiasm appears more promising if only because some universities are under great pressure from public expenditure constraints. A powerful motivation for forging business contacts in the outside world. The consequence is that many initiatives are being taken up in higher education institutions throughout the UK in pursuit of industrial linkage policies.

The University of Cambridge and higher education institutions in the North-East offer sharply contrasting examples of specific developments in this field, of what has already been achieved and the strategies being evolved to shape the future.

Last year, the economic development consultants, Segal Quince, published a report, *The Cambridge Phenomenon: The growth of high technology industry in a university town*. Their investigations revealed that the period from 1960 to 1984 more than 260 firms had been set up in and around Cambridge. The majority of these are small, indigenous and almost exclusively engaged in electronics, instrument engineering and computing. They include Sinclair Research and Acorn Computers. Nearly two-thirds of this population was established after 1978 and the phenomenon has been compared to "company explosions" in the US. The effect of such commercial hyperactivity has been the emergence of a closely knit thriving economy, accounting for nearly 20 per cent of the area's employment.

The report identifies several factors which have contributed to the Cambridge phenomenon, not least the role of the university. This is assessed qualitatively: a traditional excellence in physical and life sciences attracting the best undergraduates and research students; a generous allocation of public sector research funds; a long history of scientific research going back at least to Newton; a concentration of research and technological institutes; the Cambridge Science Park founded in 1970 by Trinity College and also long-established links between local instrument engineering firms and work in both the Cavendish Laboratory and the engineering department of the university.

However, its influence is not merely the sum total of these factors. As the author of the report, Nick Segal,

Lean and hungry for learning

In the first of a new occasional series of personal pieces on people's introduction to their discipline John Creaser retraces his steps to English literature at Oxford

discovering Bradley and Wilson Knight in the small library, I read some distinguished and sustained literary criticism for the first time. I read it passively, as authoritative pronouncement rather than as a voice in a dialogue, but from then onwards it was impossible not to go to university.

The decision was years later that it need have been. Partly this was because my small northern grammar school had been little help. Most of the teaching up to O level was efficient, and the results looked impressive because the school had first choice of 30 bright boys a year from a large industrial area. But the school was without ambition, and, after a series of stop-gaps, English teaching fell to an indolent Oxford graduate whose weary condescension deviated into enthusiasm only in his meticulous imitations of Bernard Miles. The

"azure" for "blue", while he only fell asleep over a book. Nevertheless, music transformed him into an education and passion, and through his fine bass-baritone voice, fostered by the devotion of northern Methodists to oratorio, he evoked an ideal at once of self-expression, community and worship.

Inheriting as I did the family stubbornness, my teenage need for identity led all too familiarly into conformist modes of rebellion, and years were spent on detours. The piano had to be thrown over for the alto saxophone and modern jazz, and Chapel for less formal (but even more evocative) modes of worship. To the disappointment of an unassuming, half-educated family which held education in awe, I chose to leave school after only a term in the sixth form. A nascent desire to do something with words must have been part of this, as my disdainfully amused English teacher may have perceived, since his solitary comment was: "Don't let it ruin your style."

Consequently, I was acting on the advice of local editors to get printer's ink in the veins when young; in those days a graduate journalist was an oddity, at least in the provinces. But it was a strange, even perverse choice for a shy and sensitive teenager, although for some years I was to find stimulus in the variety of daily routine, the rush to meet deadlines, and the adult camaraderie. In time the pressure to be bright and smart became tiresome.

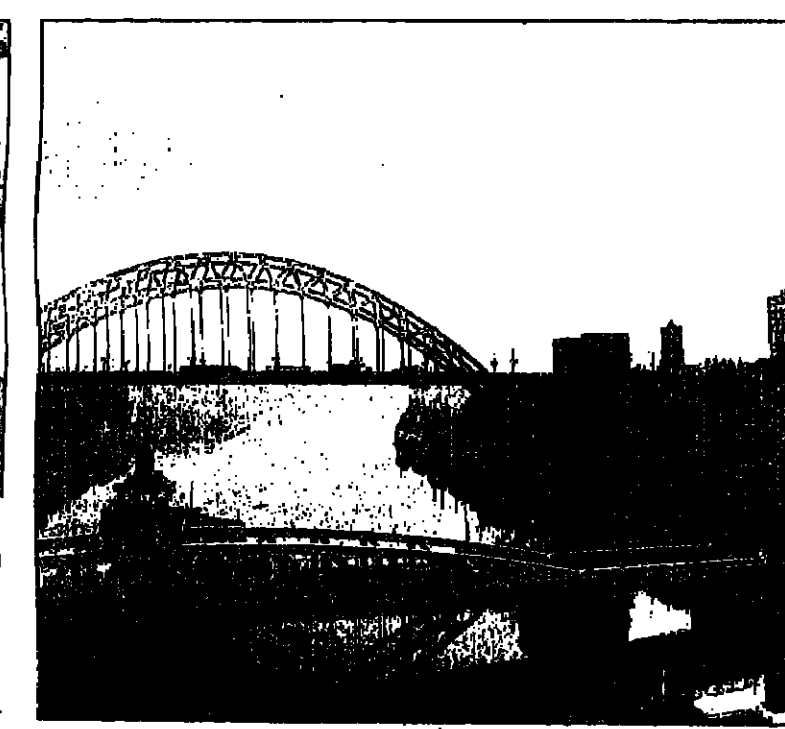
Meanwhile, responses to literature continued very gradually to develop within me. I recall that as I was leaving school, *The Observer* (then a provincial title) published an almost overwhelming model of delectable and whimsical and facetious eloquence, I bought my first edition. I read through the household copy of *The Golden Treasury* in a state approaching trance; browsing in the local W. H. Smith's led me to Hopkins, Donne and T. S. Eliot, and years later I discovered that in my random, intuitive and incantatory reading I had re-experienced a Modernist shift of sensibility. During National Service in Germany, I sought some shape for my reading; the education officer considerably welcomed my search by stipulating that I should be in a charge if I failed to complete the RAF correspondence course in A-level English which he offered. It was a useless course and I did not finish it, but it did at least give me the month of study amid the gunfire and the marching songs, near the snow-covered mountains which badly announced: "Here are 500 bodies."

In the highly professional world of modern literary scholarship a later start is not an advantage. Yet I regret it little. The years of desultory reading were amateurish, but in the course of them I developed an ear for style and period, and some keenness and individuality of response. As Johnson wrote, the task of criticism is "to improve opinion into knowledge", and after the *Wanderjahre* I did at least have opinions to improve, perceptions which were my own rather than dutiful and derived.



Bridging the gap

Stuart Todd contrasts local links between education and industry in Cambridge (above) and the North-East (right)



pointed out: "There is also the matter of the university's style, emanating from the unique position it occupies in the town of Cambridge and perpetuating a spirit of independence, individualism and self-confidence among academic staff and students alike. In keeping with the principles of academic freedom liberal ground rules govern the exploitation of research excellence rather than formal regulations and institutional devices."

This permissive approach has made it easy for academics to enter into commercial activity while still maintaining their university posts and salaries. Topexpress Ltd of Cambridge, a leading scientific and software consultancy, is an excellent example of a company with strong roots in and continuing links with the university. It depends on ready access to graduates and research workers of outstanding ability and on the free exchange of ideas with university staff. Five of Topexpress's own personnel hold college fellowships and the company was founded in 1978 by the professor of public sector research funds; a long history of scientific research going back at least to Newton; a concentration of research and technological institutes; the Cambridge Science Park founded in 1970 by Trinity College and also long-established links between local instrument engineering firms and work in both the Cavendish Laboratory and the engineering department of the university.

However, its influence is not merely the sum total of these factors. As the author of the report, Nick Segal,

fields of economic growth in the next 20 years".

An EEC report concluded that biotechnology was "of pervasive and fundamental significance". Biotechnology already has a definite presence in the area in the form of ICI's giant fermenter at Billingham, Teesside. At 1.5 million litres capacity it is the largest in the world and was utilized for the joint trial manufacture of Rank Hovis McDougall's myco-protein product, versatile enough to be turned into a wide range of foods. In the shadow of ICI there is a burgeoning biotech cottage industry in south Northumberland and Durham.

HESIN's biotechnology initiative has gained full backing from the Tyne and Wear County Council and its ebullient economic development unit. The council has funded the establishment of a £250,000 fermentation unit in the new medical school at Newcastle University to provide an interface with industry. Its facilities are made available to local industry at minimal cost which obviates much of the capital expenditure normally required.

The fermentation unit is supervised by the university's microbiological group, a team of scientists drawn from the faculties of chemical engineering, microbiology, soil science and virology, who collectively are engaged in work directly relevant to the development of biotechnology.

One of the group's prominent members is Professor Ron Archibald, describing as "one of the most important

university. He sees the HESIN initiative, the establishment of the fermentation unit and the work of the group as significant, contributory factors in the creation of a scientific and technological infrastructure. However, he guards against expecting too much from higher education inputs.

"The North-East can become a centre of biotechnological investment and excellence. But though the area's higher education institutions can provide the kind of prerequisite needed for such an eventuality they are not in themselves enough to guarantee it. We can give back-up support but the biggest attraction in getting biotech companies located here is the type of industry already present."

Do, then, higher education institutions really gain from lowering the threshold of commercialization or does it distort their founding ethic? Briefly, in the case of Cambridge University, an international reputation has been extended to embrace an impressive range of technological industries. In the North-East, the institutions have emerged as dynamic co-partners in the economic re-development of the region. The image of the higher education sector appears greatly enhanced with academics and scientists seen to be involved in practical business affairs, making money and creating jobs.

The author is a researcher in the department of administrative and social studies, Teesside Polytechnic.

BOOKS

Survival of love

Fiction and life

A life of toil, envy and want

New From Chicago

BOOKS

Western blocks

Making the Alliance Work: The United States and Western Europe
by Gregory F. Treverton
Macmillan, £25.00
ISBN 0 333 37217 4

Nato was founded in 1949 at a time of Russian belligerence, European weakness and American atomic monopoly. A US guarantee of western Europe's security seemed essential on both sides of the Atlantic.

Today the alliance appears less easy to justify. Europe is one of the more stable parts of the world and détente has forged strong economic links between its eastern and western blocs. The EEC nations have become America's economic equal, often its rival, yet although providing some two thirds of Nato's conventional strength, they continue to rely almost entirely on the US nuclear guarantee.

This guarantee is less credible now that Russia has attained nuclear parity and can threaten the USA with comparable destruction. It is also less acceptable to an America sensitive to European economic competition and to the evidence of Allied "free-riding". For their part the Europeans have liquidated their empires to become largely regional powers. They are reluctant to engage in "out-of-area" problems, especially when these are defined by the USA in terms of a new global cold war. Little wonder that many sceptics ask whether Nato has outlived its utility.

Dr Treverton, currently a lecturer at Harvard, is one of the believers. With luck and competent management he reckons Nato is good for another 30 years. Taking the major problems confronting it in turn, he judges the economic friction over monetary and commercial policy to be the most tractable and argues that it can be insulated from security questions.

Nuclear issues are also manageable, in his view, because there is no alternative to "flexible response": a largely conventional defence of Europe would require politically unacceptable costs and manpower, while a truly nuclear European defence requires a German "finger on the button" which few, even 40 years after 1945, would be willing to accept.

Détente and defence within Europe

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are more problematic, Treverton concedes. On both sides of the Atlantic support for the alliance among the "successor generation" — those coming of age since Nato was created — is less certain, more conditional. And debates about "out-of-area" responsibilities will recur, reflecting underlying differences of national interest and capability. But even here he discerns sufficient agreement to prevent breakdown.

Treverton's confidence depends on a minimalist view of Nato. He reminds us that alliances are "unnatural acts" — states prefer to operate alone, and when they do cooperate it is only on a narrow range of issues. Even then their interests are parallel rather than identical. Those minimum conditions for an alliance still obtain within Nato, Treverton suggests.

But he emphasizes that changed circumstances must be accommodated — specifically the European distaste for US dominance and the American suspicion of free-riding. America must share more of the decision-making while Europeans must accept greater burdens, particularly out of area. Otherwise the interested parties on both sides of the Atlantic will not sustain the bargains their governments make. And in all but the very last analysis those governments depend for their existence on domestic support and not alliance solidarity.

Treverton is not making a Kissinger-style appeal for a "new Atlantic Charter". He demands no utopian remedies, such as trying to eliminate the domestic problems of alliance management. Rather he asks that we reduce the burdens on those domestic policies by limiting demands made on allies and simplifying alliance endeavours. The analysis (like the proof-reading) sometimes seems complacent. There is, for instance, no reference to the grave problems that the Strategic Defence Initiative and its associated technologies will pose for deterrence, alliance relations and arms control in the future. But Treverton's basic point is surely positive. If we understand the logic of alliances — their unnatural character, their limited function — we might ask less of them and less of our partners. The motto of this book could be the aphorism attributed to Churchill — that the one thing worse than having allies is not having them.

David Reynolds

David Reynolds is a fellow and director of studies in history at Christ's College, Cambridge.

Handling Vietnam

An International History of the Vietnam War
volume two: *The Struggle for South-East Asia, 1961-65*
by R. B. Smith
Macmillan, £29.50
ISBN 0 333 33957 6

Speaking in 1918 of the Russian civil war, President Wilson expressed his preference for "letting them work out their own salvation, even though they wallow in anarchy for a while". The generally unhappy record of foreign involvement in internal wars points to the wisdom of such a policy, yet not even Wilson himself proved able to follow it. Most internal wars have international implications which can make mastery inactivity look riskier than intervention.

War within South Vietnam acquired implications so important for China, the United States, the Soviet Union and all the smaller governments of south-east Asia that its outcome is explicable primarily in terms of policies made in capitals other than Saigon. It is with the making of interventionist policies in Hanoi, Peking, Washington and Moscow that Dr Smith is mainly concerned in his four-volume international history of the Vietnam War.

Dr Smith's second volume maintains the high standard of scholarship and lucidity set by his first, and it is essential reading for anyone interested in the history of international relations. It begins with the implementation by President Kennedy of a limited programme of counter-insurgency in South Vietnam and ends with Presi-



The band of the 2nd Gurkha Rifles, a picture from Christopher Chant's *Gurkha: the illustrated elite fighting force*, which is published by Blandford at £8.95.

The long story of Lebanon

The Making of Modern Lebanon
by Helena Cobban
Hutchinson Education, £6.95
ISBN 0 09 160791 4
The War for Lebanon 1970-1985, revised edition
by Itamar Rabinovich
Cornell University Press, \$9.95
ISBN 0 8014 9313 7

To those familiar with John le Carré's bestseller, *The Little Drummer Girl*, or Schulondariff's masterly film, *Circle of Dread*, the Lebanon might appear to be merely an area of feuding sects, or a convenient battlefield for its immediate neighbours, Syria and Israel. Scenes on television of American marines being blown up in Beirut, or the negotiations over the TWA hijacking, could leave the impression that the Lebanon has disintegrated as a national entity.

Two recently published works written by authors from substantially different viewpoints focus attention on this issue. Helena Cobban, an Oxford-educated journalist who lived in the Lebanon between 1974 and 1981 and acted as Beirut correspondent of *The Sunday Times* and *The Christian Science Monitor*, in a brilliant analysis of

the Lebanon's development since 1885, views the troubles of the past decade as just another episode in the making of that country. In the mid-1980s she still sees most Lebanese desperately clinging to the idea of the borders established in 1920, and even to some formalities of the constitution first inaugurated in 1926. Itamar Rabinovich of the Shiloah Institute at Tel Aviv University, however, argues that after the civil war in 1975 both the Lebanese "state" and "system" "collapsed".

Helena Cobban traces the development of an inter-sect system in the Lebanon back to the 16th century with the capture of Mount Lebanon by the Sunni Ottomans in 1516, and the subsequent regional peace that lasted for over 300 years between the Maronite and Druze communities in the area. The collapse of the Ottoman Empire and the First World War changed this, and resulted in French rule that lasted into the Second World War. France expanded the boundaries to include the coastal cities and the Akkar plain, areas of strong Sunni Muslim predominance, and the Beqaa valley and Jebel Amil, which contained strong Shi'ite Muslim majorities.

The 1926 constitution was an attempt to integrate into the inter-sect system of the mountain the two new coastal communities. It established a principle of explicit inter-sect power-sharing which became known as "confessionalism", something that has survived in the Lebanon to the present day. In November 1943 the Katabeh Maronite grouping and parallel Muslim organizations arranged demonstrations against the French which led to the end

of the mandate over the Lib 1943 National Pact made phase in the inter-sect Maronites retained ascendant Sunni Muslims replaced the "second place".

The subsequent coalition between mercantile city elites than an entente between the in the mountain, against the ground of Nasserism, the policies of the Maronite Chamoun alienated Lebanese opinion, and in 1958 the American troops landed on soil. The ensuing presidential election (1958-64) and the (1964-70) concentrated on new national identity. A Day War in 1967, however, a nian issue erupted inside the and eroded the Shi'ite and Both Cobban and Rabinovich not as merely being between and Muslim. Cobban does not consider oneself as an Shi'ite and Shi'ites instigated Arab, as did Kamal Jumblat supporters among the Druze so did most Greek Orthodox and sections within the communities in the Rabinovich rejects the "right-wing" with Maronite wing, with Maronite wing, was a status quo system preserve the traditional Shi'ite revisionist coalition tried and overthrow that system.

For Cobban the Lebanon of 1975-76 may have reached international level in the Lebanon's political system, but on the external level Lebanon had emerged as intervention by Israel and try's commitment to it is mainly Maronite hardline that Israel discovered a potent Lebanon for strengthening against Syria. Rabinovich concentrates on this Israeli view the "collapse of the state and political system" with the ascendancy of the Liberation Organization Lebanese allies and the intervention by Syria, post Israeli government that in Lebanon has been a "longer". Against the backdrop the partial implementation Camp David agreement, the murder of the Israeli ambassador in London by a Palestinian Israel's long-awaited but Lebanon started on the Rabinovich argues that caught in a "vicious circle" efforts of three successive governments to escape it in Israel, the Sunnis, and a lost power and position. Shi'ites and the Druze, a ban, however, sees the time entering its fifth decade with a Shi'ite majority.

The Making of Modern Lebanon is superbly written and clearly the history of the Lebanon's general readership as well as useful as an undergraduate text. *The War for Lebanon* is more suitable for specialists.

Yet it was likely, in any case, as so often with interventionist policies, to have been a question of the degree of failure and the form it would take. Even the victorious interventionists in Hanoi were to pay a preposterously high price for gains which might have fallen to them anyway had they waited for South Vietnam to "wallow in anarchy for a while".

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Ritchie Owendale
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BOOKS

Report from the classroom

A Room Full of Children Thinking: accounts of classroom research by teachers
by Charles Hall, Jean Ruddock, Alan Sigafoos and Gundl Diamond
Longman, £4.50
ISBN 0 582 17274 8

Rightly or wrongly, schoolteachers often mistrust academic research with children. The questions asked frequently seem idle, and even when they are not, the answers are hidden away in inaccessible journals under inaccessible prose. It is not that teachers are necessarily hostile to research, rather that research-as-science is not

Trying to keep control

Classroom Control: a sociological perspective
by Martin Denscombe
Allen & Unwin, £18.00 and £7.50
ISBN 0 04 371094 8 and 371095 6
Freedom and Discipline
by Richard Smith
Allen & Unwin, £12.50 and £4.95
ISBN 0 04 370158 2 and 370159 0

Two views about discipline in schools are well represented in public debate. One, the popular view, is critical of discipline in schools and blames the laxity of teachers for increasing classroom violence and sometimes also for declining standards of behaviour in society at large. The other, canvassed by teachers themselves and their unions, reverses the direction of causality and points to the teacher as a victim of changing attitudes in society. The teacher unions have tried to draw attention to the increases in levels of stress and incidence of nervous illness among their membership. And yet leaving aside the sensationalized accounts of classroom disruption peddled by the popular press, our understanding of school discipline problems and classroom control is hazy and muddled.

These two books are attempts to clarify the question of classroom control but their methods could not be more different. Denscombe's is a research study from a sociological perspective, based on participant observation in three schools. He aims to describe and analyse classroom control from the ground up. Smith's is a philosophical treatise which considers discipline in terms of abstract principles. He is arguing a philosophical position based on an a priori conception of the process of education. Both have a great deal to say to teachers; but whether teachers will listen is another matter.

Denscombe's approach to understanding classroom control is to describe it first-hand and extract the organizing principles. As he sees it control is fundamental to the work of teaching. It is learnt in the process of becoming a proper teacher. Control arises, Denscombe argues, out of the very fact of compulsory schooling and the indignities that pupils are subjected to in school and classroom. Keeping control is normally done behind closed doors, it is an individual job that relies ultimately upon the personal authority of the teacher. Those who call for help from outside threaten to undermine their status. The classroom is a gladiatorial contest of skill and strength between entrenched opponents, but Denscombe is also keen to point out that this is rarely a fight to the death. Reports of rampant violence and teachers working in fear of their bodily safety are greatly exaggerated. The actual number of violent incidents is small, although problems of under-reporting are acknowledged. The daily business of classroom control is more about

seen as the best way to gather useful information about the process of education and about intellectual development. So why should not research (under a suitably liberalized interpretation of the term) be conducted by the teachers themselves? Thoughts such as these led the Schools Council, in 1981, to inaugurate a programme of "teacher research". This was organized by a team from the University of East Anglia and involved four middle and high schools in the immediate area. What this booklet contains is a series of reports of 10 research programmes conducted by teachers and written up by them, followed by some ruminations on the exercise by the university team.

Predictably, some of the teachers were more successful than others. For my money the first three reports are clear success stories. The first (drawing sketch maps in geography) and the third (on how children describe and draw leaves in biology) illustrate with some subtlety and care how children can learn from each other the need to develop a "public" mode of communication. No one could doubt, reading these reports, that both children and teachers benefited. The second report, on children's appreciation of poetry, is a neat and interesting piece

of research by any standards. The teacher (Ray Taitton) rewrote a poem by James Reeves in prose, without punctuation marks, and then told his class to make it into a poem, introducing changes where they wanted. They produced a rhythmically stiff poem in complete, expending great effort on what they called "the rhyming end". Then they were given the Reeves original. They much preferred their own, mainly because the original broke some of the rules of symmetry that they regarded as sacrosanct. What we learn from this about 11-year-olds' aesthetic judgements is not very encouraging, but it is of real interest. Some of the studies were less successful. One of the teachers developed the theory that there would be "a variety of non-verbal signals found only in a noisy workshop situation". After some "extremely time-consuming" transcription and setting up of video he found that there were no such signals. But if they had been found, what then? It seems that the wide variability in the quality of the studies was principally due to a lack of clear direction from the university team — and indeed a number of the teachers said as much. What the teachers needed was concrete advice and criticism, but what it seems they received more often was

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"At the Piano", by J. A. M. Whistler, an oil painting from 1858-9 now in the Taft Museum, Cincinnati. It is reproduced in Kenneth Bendiner's new book *An Introduction to Victorian Painting* which is published by Yale University Press at £30.00.

keeping the noise down than fending off physical attack.

Out of his observations Denscombe discerns three prime strategies for achieving control. First, domination: the well-worn, yell and rage approach; second, classwork management: the scientific approach which relies on reducing opportunities for misbehaviour to a minimum by ensuring that everybody is busy all the time and has no excuse not to be working; and third, cooptation: lessons are made relevant, the aim is to motivate, "to bring opposition into the auspices of the established framework".

These strategies are also examined by Smith. And when it comes down to it he clearly emerges as a cooptation man. Smith's account is in fact the exposition of a complete philosophical system. Discipline is tied, in his terms, to a view as to what education is, to a vision of freedom, and finally to a conception of the nature of the person. Indeed this sense of coherence makes it a very satisfying book. Running through the book is an argument about reasons. Smith sees discipline as dependent upon teachers' understanding of the reasons behind their pupils' behaviour and the purposes behind their own classroom response to that behaviour. In other words he is advocating the need for clear thinking.

On the way to establishing his own position Smith demolishes both classwork management and domination. The first, which he calls the "skills" method, emerges as mindless and cold. It reduces education to a superficial behavioural game and is manipulative. Control becomes the be all and end all of teaching. People are the means. Domination is equally flawed and unacceptable. The rightness or wrongness of things, Smith argues, is separate from the will of persons. The teacher's "because I say so" or "because Keith Joseph says so" just will not do. "To be authoritative is to be able to indicate the grounds for your actions". We are back to reasons

Stephen Ball
Stephen Ball is lecturer in the sociology of education at King's College London (KQC).

tree-floating supportiveness and talking shops. Moreover the reports are far too short, being squeezed into little more than half of the booklet. Most of the remainder consists of repetitions reflections written by the team, and rendered saggy by the warm spray of educationalists' terms which were both present and emergent in the period of excitement. . . . Seminars were useful in symbolizing the legitimacy of the research activity. We are told that the university team had judged the original reports to be too long, and so they edited them down for us.

The Schools Council, under whose aegis this exercise was carried out, was abolished by the Government a few years ago, so it looks as if we shall have to wait some time for similar programmes. This is a great pity because teacher research is clearly a valuable practice whether or not "good data" emerge. But even if this booklet had contained flawless reports of uniformly brilliant studies, those who reach for their calculators whenever they hear phrases like "classroom research" would have remained quite unmoved.

James Russell
James Russell is reader in psychology at the University of Liverpool.

Learning female values

Reclaiming a Conversation: the ideal of the educated woman
by Jane Roland Martin
Yale University Press, £21.50
ISBN 0 300 03324 9

Most thinking about the goals and methods of education has been concerned with boys. Where theorists have turned their minds to the education of girls, their ideas have been given little attention. As a result, Jane Roland Martin believes, contemporary feminists find themselves at a disadvantage in questioning educational practices because they possess no tradition to give depth to their thinking.

She therefore sets out to salvage from neglect some of the contrasting ideals of female education that have been proposed over the centuries, choosing five thinkers widely separated in time and place: Plato; Rousseau; Mary Wollstonecraft; Catharine Beecher, author of an influential mid-19th-century American *Treatise on Domestic Economy*; and Charlotte Perkins Gilman, another American, author of a utopian novel, *Herland*, first published in 1915. The educational ideal proposed by these writers contrast sharply with one another, and were in some cases intended to do so. When Martin speaks of "reclaiming a conversation", however, her aim is to examine each of these past ideals in the light of the others and of modern thinking, in order to enrich contemporary debate. Her method brings out the difficulties of their positions. For

Punishment, as part of the armoury of domination, is not an unlimited evil in Smith's terms, so long as it is used as a qualified deterrent, based on a precise calculation of costs and benefits, likely effectiveness and degree of transgression. It is acceptable only in so far as it recognizes responsibility and choice, the intentionality of the pupils. Keeping in the whole class for the crime of a few would be outlawed by this analysis. Smith also rejects those arguments which treat punishment as a vehicle for teaching moral principles or as a form of justifiable retribution.

The question that one is inevitably drawn to ask about these books, is whether they have anything to offer to student teachers about to face their first class or working teachers experiencing control problems. This is most fairly asked of Smith. His whole approach rests upon the teacher being able to "step back", to reflect upon their own purposes and the causes of their pupils' behaviour. Whether this is actually feasible in the heat and sweat of classroom life is questionable. And whether outside pressures towards greater monitoring and appraisal of teachers' work will recognize the validity of this is doubtful. There is less good reason to interrogate Denscombe in this way. His brief is clearly to describe and analyse. In quiet moments the reflective teacher will find much to think about within the book, not least the analysis of their control strategies. When Denscombe moves beyond his brief, in an obligatory final chapter of "so what?", his offerings are facile to say the least. The meat of the book is in its substance not in any tacked-on conclusions.

Margaret Canovan
Dr Canovan is senior lecturer in politics at the University of Keele.

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126 Buckingham Palace Road London SW1W 9SD

The remaining seven chapters then develop a number of theories—with induction specialized in the standard domains (integers, strings, trees, lists, and so on) commonly addressed by computer programs. These theories are presented with great precision and care, in detail; the authors having gone to considerable trouble to make their logical notations both readable and capable of being applied uniformly throughout the chapters. Indeed, as they achieve this aim admirably, it is easy to perceive at a glance from the text the axiomatic distinction between the lists, trees, tuples, or between sets and bags. Students will benefit particularly from these very precise logical characterizations of basic data structures. Each chapter ends with a good range of problems for the reader. Although answers are not provided, there are plenty of hints and lemmas, and relevant parts of the text. The index is excellent and there is a small but well-organized bibliography of related texts.

Christopher Hogger is lecturer in information technology in the department of computing at Imperial College, London.

Michael Luntley is lecturer in the department of logic and metaphysics at the University of St Andrews.

John Latham is professor of atmospheric physics at the University of Manchester Institute of Science and Technology.

A collection of articles on **Reductionism in Academic Disciplines** has been edited by Arthur Peacocke and published for the Society for Research into Higher Education by NFER-Nelson at £14.95.

Professor Russell is head of the History of Chemistry Research Group at the Open University.

rogen (which he first called "protyle") and that their atomic weights should really be whole numbers. From his early philosophy of matters well known to us, he came to the conviction that values flowed a great deal of speculation and a considerable volume of sound experimentation for the rest of the century. Since then the discovery of isotopes and of subatomic particles has gone far to vindicate Prout's intuitive hypothesis, which had more than a touch of metaphysics about it from the very beginning. In fact it was popularized to one of the *Bridgewater Treatises*, works of natural theology designed to demonstrate from science the reasonableness of a belief in God. Though initially published rather casually in a scientific journal (anonymously), the hypothesis emerged clearly enough from a general philosophy of nature rather than specific chemical facts. Nevertheless, it was the force of Brock's suggestion that Prout's vitalistic theory was tinged with polytheism as the whole thrust of his natural theology was against any deification of nature.

Brock provides a succinct, readable account of the man and his achievement, and in discussing the theme of unitary matter theory.

The University of Liverpool department of continuing education has organized a one-day conference on "Civil Nuclear Power: policies and options" to be held at the continuing education centre, Liverpool, on March 8. Bookings from 19 Abercrombie Square, PO Box 147, Liverpool L69 3BX.

Images of solidarity: Françoise Gilot's frontispiece to *This Where I'm Going?*, a collection of feminist poetry by Professor Natasha Josefowitz of San Diego State University, published by Columbus Books at £3.95.

[illegible]

KENT
Dr R. B. Freedman, £42,173 from AFRC (biosynthesis, translocation and aggregation of cereal storage protein); Dr D. C. Ashworth, £29,830 from Alvey Directorate (two-dimensional implantation profiles); Dr D. J. Shaw, £10,000 from British Academy (Integration of computer-based cataloguing of early books); Mr. Crimley and Mrs S. J. Thompson, £67,343 from British Petroleum (functional programming in the large); Dr C. Brown, £10,500 from Centre International de Recherches Dermatologiques (synthetic chemistry); Professor A. P. Thirlwall, £27,870 from ESRC (life and work of Nicholas Kaldor); Professor B. P. Davies, Personal Social Services Research Unit, £15,000 from ESRC (analysis of operating cost variations between retail establishments); Dr F. Izgu, £10,750 from Pfizer Ltd (genetic engineering); Professor C. J. Knowles and Dr A. W. Busch, £46,698 from SERC (biotechnological potential of microbial hollow-fibre bioreactors); Dr M. Tuite and Dr J. J. Ardman, £200,000 from AFRC (development of plasmid vectors for genetic manipulation of commercially important microorganisms).

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10.36 History to the Universe. Gravity and the Stars.
(K265:1).

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Universities

NINE

NATIONAL INSTITUTE FOR HIGHER EDUCATION DUBLIN

Professor of Communications

The National Institute for Higher Education Dublin is Ireland's newest higher education institution. A technological university in international terms, it enrolls its first students in 1980. It offers some twenty degree post-graduate courses and has active research interests in all of its disciplines area including Masters and Doctoral programmes. Student enrolments are in excess of 2,000 currently. The Institute plans to expand to some 6,000 students and active planning and design is underway on a new Engineering and Science complex.

The School of Communications has approximately 280 students enrolled on a B.A. (Hons) in Communication Studies Graduate Diploma in Journalism, Master's and Doctoral Research. The School occupies purpose-built accommodation with its own colour TV and Radio studios, post-production and technical workshops, photographic and print studios, psychology/linguistics and information technology laboratories. Planning for a taught M.A. is currently underway.

Applications are invited from individuals with an established reputation in Communications, Technology, International Communications, Informatics or Communications. They should have had extensive academic and professional experience which will enable them to provide continuing leadership to the School.

The successful candidate will act as Head of School for an initial period of three years.

Application forms and further details are available from the Personnel Office, National Institute for Higher Education, Glasnevin, Dublin 9. Closing date: 28 February 1986.

BRUNEL UNIVERSITY DEPARTMENT OF ECONOMICS POSTS IN FINANCE AND ECONOMICS

Applications are invited for two posts in the department, which is introducing a new degree in Economics and Business Finance from October 1987. The posts are available from October 1986.

1. Lecturer in Corporate Financial Management and Accounting
Applicants may have an interest in any aspect of the field. They should have a good first degree, and those in academic employment should be able to provide evidence of research interests and ability. The person appointed will have the opportunity to play a major role in the development of the new degree.

2. Lecturer in Economics (4-year appointment)
Applicants should be able to teach introductory econometrics. We especially welcome applications from economists with research interests in empirical aspects of finance, but others should not be discouraged from applying.

Salary will be within the Lecturer scale £7,820 - £14,925 per annum (under review), plus £1,297 per annum London Allowance, with USB benefits.

Informal enquiries to Martin Caves or Steve Lumby on 0895 26461. Application form and written further details from the Personnel Secretary, Brunel University, Uxbridge, Middlesex, UB8 3PH, on receipt of self-addressed envelope. Closing date: 21 February 1986.

(74223)

UNIVERSITY OF SALFORD SPECIAL STUDIES UNIT EFL TUTOR

Applications are invited for post to teach EFL and Study Skills on prepositional courses for post-graduate students. Appointment is initially for 6 months from 1 April 1986, but subsequent renewal is possible. The salary will be in the range £6,800 - £8,320 p.a.

Applicants should have a degree, a teaching qualification and EFL teaching experience. An MA or MEd would be an advantage.

Details and application forms from the Registrar, University of Salford, Salford, M5 4WT (Tel 061-736 8843 ext 215) to whom completed applications should be returned by 21 February 1986 quoting reference SSU1/THES.

(74294)



GRIFFITH UNIVERSITY CHAIR IN THE SCHOOL OF SCIENCE - PHYSICIST

Following the resignation of Professor R.L. Segall to become Principal of the South Australian College of Advanced Education, the University wishes to appoint to a Chair in the School of Science a Physicist with special interests in one or more of the areas of Theoretical Physics, Experimental Physics, Mathematics, Electronics, Computing or Biophysics. The appointee will be required to provide leadership in one or more of these areas, participating in undergraduate programmes, the supervision of higher degree students and the development of research programmes.

The Schools at Griffith University adopt an interdisciplinary approach to undergraduate and postgraduate programmes. The School of Science, as part of its undergraduate programme, offers concentration areas in Experimental Physics, Physical Mathematics, and Electronics and Scientific Instrumentation, as well as in the chemical and biological sciences. A new concentration area in Science with Computing is being developed. As part of the Honours Programme, courses are also offered in Physics and in Electronics and Scientific Instrumentation.

The professional salary in Australia is presently \$57,036 per annum. The University will assist with the cost of fares and removal expenses and housing. The successful applicant will be required to join the Superannuation Scheme for Australian Universities.

Applications should be submitted by 30 April 1986 and interested applicants should first write for further information to: Mrs D.J. Garland, Appointments Officer, Association of Commonwealth Universities, 36 Gordon Square, London WC1H 0PF, ENGLAND.

GRIFFITH UNIVERSITY IS AN EQUAL OPPORTUNITY EMPLOYER (74213)

THE OPEN UNIVERSITY Management Education Co-ordinator, London (2-year temporary post)

The Open University requires a Management Education Co-ordinator (MEC) to be based in London Regional Centre in NW3. The Management Education Sector is part of the Open University's Continuing Education Programme. The Sector provides courses for managers who want to refresh or extend their knowledge in particular areas of management or who wish to take the University's Diploma in Management.

Among the duties of the MEC are the appointment, training and supervision of part-time tutors, the promotion of the Management Education Programme in the London Region, advising course teams on the tutorial and regional support aspects of course development and providing a link between course teams and the part-time staff and students.

Candidates should have had practical experience both as a manager and as a teacher of adults, academic qualifications in management or related subjects, and experience of working in a team and of making promotional presentations, or a combination of most of the above. The post is available for 2 years from 1st April 1986 and secondments will be welcomed.

Salary will be at an appropriate point on the (interim) Lecturer scale £7,820 - £15,320, plus a London Allowance of £1,297 p.a.

Further particulars and application form may be obtained from Mrs Maureen Leghion (04412), Management Education, 'B' Block, The Open University, Walton Hall, Milton Keynes, MK7 6AA, or telephone Milton Keynes (0900) 453412; there is a 24 hour answering service on 635866. Closing date for applications: 17 February 1986.

(74243)

Royal Holloway and Bedford New College LECTURESHIP IN ORGANIC GEOCHEMISTRY

Applications are invited from candidates with research experience at the interface between Geology and Organic Chemistry. This new post is in the Chemistry Department and is sponsored under the University of London's 'New Initiatives' scheme and forms part of a programme of development in the geochemical field, which is already strong in the Geology Department. The successful candidate would have wide scope for research in which collaboration with the Geology Department and with relevant industrial interests would be encouraged.

Salary in the Lecturer scale £7,820 - £14,925 a year (under review), plus London Allowance of £1,297 a year.

Further details may be obtained from the Personnel Officer. Closing date for this post is 20th February 1986.

(74292)

Appointments

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Colleges with
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For Sale and Wanted
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Accommodation

All box no. replies should be sent to THES at the above address

THE CHINESE UNIVERSITY OF HONG KONG

Applications are invited for the following posts tenable from August 1, 1986.

FACULTY OF ARTS

1. Senior Lecturer/Lecturer in Translation (ref. 3/509/2/86) - Applicants should have an advanced degree, preferably a Ph.D. with teaching and literary translation experience. The appointee will be required to teach both day-time and evening classes.

FACULTY OF MEDICINE

2. Lecturer in Clinical Pharmacology (ref. 2/509/2/86) - Applicants should possess a medical qualification, preferably registrable with the Hong Kong Medical Council. The appointee will be required to teach in the Department of Clinical Pharmacology. Applicants who have relevant experience or a higher qualification (e.g. MRCP or equivalent) will have an advantage.

PART-TIME DEGREE PROGRAMMES

3. Lecturer/Assistant Lecturer in English (for degree programme for working adults, ref. 2/509/2/86) - Applicant should have the diploma in hand or meeting degree in an area related to English studies (language, literature, linguistics, ELTE, teaching experience and a knowledge of Chinese language are preferred, but not necessary for application).

Annual Salary:

Senior Lecturer: HK\$250,280 - 338,180 by 8 increments
Lecturer: HK\$160,880 - 182,700 by 2 increments
Assistant Lecturer: HK\$103,660 - 208,100 by 7 increments
Lecturer (Clinical): HK\$117,380 - 150,120 by 3 increments
Lecturer (Clinical): HK\$148,500 - 258,680 by 8 increments
Lecturer (Clinical): HK\$270,720 - 307,260 by 3 increments

(Exchange rate approximately: £1=HK\$11.0)

Starting salary and grade will depend on qualifications and experience. Conditions of Service: Benefits include long leave with pay, annual leave, sick leave, superannuation, medical benefits, education allowance for children and housing benefit for those whose annual salary is HK\$171,840 or above, and to superannuation on overseas leave, pension benefits for themselves and their dependants as well.

Application Procedures: Applications should be made by 1st April 1986, giving full curriculum vitae, experience and the names and addresses of three referees. Applications may be made, and sent together with copies of certificates/diplomas/testimonials and recent publications to the Personnel Section, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, by post on or before 1st April 1986. If by post, please send a copy of the application to the Personnel Section, The Chinese University of Hong Kong, Shatin, New Territories, Hong Kong, by post on or before 1st April 1986. Please quote appropriate reference number and name, 'recruitment' on cover.

(74242)

Royal Holloway and Bedford New College UNIVERSITY OF LONDON EGHAM HILL-EGHAM-SURREY-TW20 0EX

Senior Lectureship in Computing in the Humanities

Applications are invited from persons with an established record in the field to develop teaching and research in the application of computer-based methods in the humanities, to be attached to an appropriate department, but with responsibilities across the Faculty of Arts and Music. Programming support will be available.

Salary in the Senior Lecturer scale £14,135 - £17,705 a year (under review) plus London allowance of £1,297 a year.

Further details may be obtained from the Personnel Officer, to whom applications (three copies) with full curriculum vitae and the names and addresses of two referees should be sent by 21st February 1986.

(74241)

Oxford St John's College

CHAPLAIN

The College proposes to elect a Chaplain who will be an Official Fellow and a member of the Governing Body. The post is for a full-time position, starting on 1st September 1986, or as soon as possible thereafter. The appointee will be required to teach in the first instance, and to provide pastoral care to the students of the College. The successful candidate will be required to conduct daily chapel services, to undertake pastoral work with individual students, and to undertake a limited amount of undergraduate teaching in theology or some other subject.

Applications are invited from persons with a first degree in Theology or a related discipline, and who are qualified to teach in the first instance, and to provide pastoral care to the students of the College. The successful candidate will be required to conduct daily chapel services, to undertake pastoral work with individual students, and to undertake a limited amount of undergraduate teaching in theology or some other subject.

Salary range £7,820 - £14,925 a year (under review), plus £1,297 p.a. London Allowance.

Further particulars may be obtained from the College Secretary, St John's College, Oxford OX1 1JF, to whom completed applications should be sent by 21st February 1986, quoting reference CTS/11.

(74240)

Universities continued

THE UNIVERSITY OF PAPUA NEW GUINEA

Port Moresby

Applications are invited from suitably qualified persons for the following positions:

Deputy Principal - Goroka Teachers' College - 67110022

Applications are invited from suitably qualified and experienced persons for the position of Deputy Principal at the University of Papua New Guinea, Goroka Teachers' College. The Deputy Principal will be responsible to the Principal for the administration of the College, which comprises 40 academic and 80 non-academic staff, and more than 400 students variously preparing for careers as Provincial, District and Technical College teachers. The majority of staff and students are from the highlands. The appointee to this position will preferably have a wide knowledge of, and experience at, senior administrative level in secondary teacher education in Papua New Guinea. The most important of which are Chairmanship of GTC Staffing Committee, Admissions, Assessment and a three year contract will be offered and non-national terms and conditions are applicable to non-national appointees.

Lecturer/Senior Lecturer in Science Education - Goroka Teachers' College - 6851002/86

This position is available from first term of 1986. A three year contract will be offered with the possibility of renewal for a further three years. The successful applicant will be required to teach several Science courses within the Diploma in Science Education. The appointee should have a first degree or higher in any one of the Social Science disciplines, must have a teaching qualification, and experience at teaching Social Science at secondary or tertiary level. A Master's degree is essential for appointment as Lecturer level. Experience in teacher training in PNG or other developing countries would be highly advantageous, and in PNG or other developing countries would be offered a three year contract with the possibility of renewal, and will be expected to take up duties in first semester 1986.

Senior Tutor/Lecturer in Social Science Education - Goroka Teachers' College - 6861002/86

Applications are invited from suitably qualified persons for this position in the Social Science Department. The position involves the training of Social Science teachers for a two-year Diploma in Teaching (Secondary). Graduates of the College are subsequently employed in Secondary Schools throughout the country. Applicants should possess at least a first degree or higher in any one of the Social Science disciplines, must have a teaching qualification, and experience at teaching Social Science at secondary or tertiary level. A Master's degree is essential for appointment as Lecturer level. Experience in teacher training in PNG or other developing countries would be highly advantageous, and in PNG or other developing countries would be offered a three year contract with the possibility of renewal, and will be expected to take up duties in first semester 1986.

Salary: Deputy Principal K23,255, Lecturer II/Senior Tutor II K18,405, Lecturer I/Senior Tutor I K17,655, per annum, plus gratuity.

Other Conditions: The successful applicant will normally be offered a contract for a three year appointment ending at the end of a semester. The gratuity entitlement is based on 24% of salary earned and is payable in instalments or lump sum and is taxed at a flat rate of 24%. In addition to the salaries quoted above, the main benefits include: support for approved research; non-fund accommodation; appointment and repatriation airfares for appointee and dependants; financial assistance towards the cost of transporting personal effects to and from PNG; 6 weeks annual recreation leave with salaries arrears payable after each 16 months of continuous service; generous education subsidies for children attending schools in PNG or overseas; a salary continuation scheme to cover the period of leave; and a gratuity scheme. The Terms and Conditions are under review.

Applications will be treated as strictly confidential and should include a full curriculum vitae, a recent black and white photograph and the names and addresses of three referees and date of availability. In order to expedite the appointment procedure, applicants are advised to ask their referees to send confidential reports directly to the University without writing to be contacted. Applications should be forwarded to: The Deputy Principal, Goroka Teachers' College, University of Papua New Guinea, P.O. Box 510, Goroka, New Guinea. The successful applicant will be expected to take up duties in first semester 1986. Closing date: 21 February 1986.

(74244)

UNIVERSITY OF LONDON DEPARTMENT OF EXTRA-MURAL STUDIES COUNSELLING SECTION

Trainers in Counselling

Applications are invited for Trainers in Counselling, with a psychology background, to design and work on new courses and projects. Several appointments can be made; all are part-time contracts, for a limited period and are available immediately. The rates paid are at the equivalent of the Lecturer Scale.

Further details can be obtained from Ellen Noonan, Head of Section, 28b Torrington Square, London WC1. Tel: 01 637 2800.

(74217)

University of Oxford Computing Teaching Centre Teaching in Philosophy and Economics

As a result of a generous donation by IBM, the University is about to launch a major project in the development of teaching in the field of computing and logic at Oxford.

The University intends to appoint a

PROJECT DEVELOPMENT OFFICER

to head the Computing Teaching Centre to carry out the project. The appointee will be required to develop the project, to recruit staff, and to manage the project. The successful candidate will be required to develop the project, to recruit staff, and to manage the project.

Applications are invited for a Temporary Lectureship in the Department of Economics, tenable for two years. The post has become available following the resignation of Dr. Martin Sarg, of a British Academy Wolfson Researchship. The person appointed will be expected to teach on the Department's core courses in British Economic History and also provide some teaching for optional graduate and undergraduate courses.

The appointment will be made on the first four points of the Lectureship scale, currently £7,820 - £14,925 p.a. (under review). Ref. No. 87/86/2.

LECTURESHP IN ECONOMICS

Applications are invited for a Temporary Lectureship in the Department of Economics, tenable for two years. The post has become available following the resignation of Dr. Martin Sarg, of a British Academy Wolfson Researchship. The person appointed will be expected to teach on the Department's core courses in British Economic History and also provide some teaching for optional graduate and undergraduate courses.

The appointment will be made on the first four points of the Lectureship scale, currently £7,820 - £14,925 p.a. (under review). Ref. No. 87/86/2.

Further details of the posts are available from the Registrar, University of Oxford, Oxford OX1 1JF, to whom completed applications should be sent by 21st February 1986, quoting reference CTS/11.

(74241)

Cranfield

Royal Military College of Science Shrivenham

SENIOR RESEARCH OFFICER

IN

MILITARY OPERATIONAL ANALYSIS

Because of continued expansion, a vacancy exists for a Senior Research Officer to join the Operational Research and Statistics Group at RMCS which is one of the leading exponents of Military Operational Analysis in the United Kingdom.

The successful applicant will have a number of years experience in the field and will be able to demonstrate a record of achievement in the development and/or use of combat models, in weapon assessment studies or in other relevant areas of military operational analysis. He/she will be expected to take over the leadership of existing research activities and to initiate further sponsored research activities in this important specialised field. The salary will be within the normal range for a University Research Officer Grade II, ie £11,655-£15,520 per annum.

For further information and an application form please contact: Personnel Officer (HQ), RMCS, Shrivenham, Swindon, Wilt. SN6 8LA. Tel: Swindon 782551 ext 2403 or 2421.

Closing date: 21st February 1986.

(74221)

UNIVERSITY OF EAST ANGLIA NORWICH

Applications are invited for the post of

TEMPORARY LECTURER (ONE YEAR)

In FILM STUDIES, in the Interdisciplinary School of English and American Studies. The appointment will run from September 1986 to August 1987. Candidates should be competent to teach courses in film theory and film history, and in at least two of those specific areas: Television, Women and Film, early drama, British cinema, Hollywood cinema.

Salary on the scale £7,820 - £14,925 per annum (under review) plus USB benefits.

Applications (three copies) which should include a full curriculum vitae including exact date of birth, together with the names and addresses of three persons to whom reference may be made, should be lodged with the Personnel Officer, University of East Anglia, Norwich NR4 7TJ (telephone 0693 58161 ext. 2126) from whom further particulars may be obtained, not later than 21st February 1986. No forms of application are issued.

(74221)

University of Bradford

LECTURESHP IN ARCHAEOLOGICAL SCIENCES

Application are invited for the above post from candidates who are able to participate in the teaching and research programmes of the School. The successful candidate will have active research interests in the application of physical sciences to Archaeology, possibly in the area of prehistoric archaeology, although other fields will be considered.

Salary on scale £7,820 - £14,925 p.a. (under review). Superannuation.

Further details and application forms from the Deputy Secretary, (LAS/67/1), University of Bradford, West Yorkshire LS2 9JF. Closing date 28.2.86.

(74200)

University of Exeter

Department of Arabic and Islamic Studies

Applications are invited for a

TEMPORARY LECTURESHIP

in the Department of Arabic and Islamic Studies. The successful candidate will be required to show a specialist knowledge of modern Arabic literature and history. The Lectureship will be tenable for four years from the first instance.

Salary will be within the range £7,820 - £14,925 per annum (under review).

Further particulars available from the Personnel Officer, University of Exeter, Exeter EX4 4RN, to whom applications (3 copies, applicants resident overseas only), should be sent by 28 February 1986, quoting reference no. 3458. (190233) HI

(74200)

University of Melbourne

LECTURESHP (CONTINUING OR LIMITED TENURE)

The Department of Architecture and Building is seeking to appoint a lecturer to work in the area of Architectural Design or Human Environment Relations. Applicants must have a first degree in architecture or a related discipline and hold a higher degree. Distinction in research and teaching is expected. In the first instance the appointee will be expected to teach in Architectural Theory. A statement of research work and future plans for research should be included as part of the application.

Salary will be in the range \$67,555 - \$85,777 per annum.

Further printed information regarding details of application procedure and conditions of appointment is available from the Appointments Officer, University of Melbourne, Victoria 3010, Australia, and also on 24 February 1986.

Equal opportunity in employment is the policy of the University of Melbourne. (190231) HI

(74200)

COLEG PRIFYSGOL CYMRU

THE UNIVERSITY COLLEGE OF WALES

ABERYSTWYTH - M.B.A.

A one year programme offering a choice of taught courses in Accounting, Economics, Marketing and Law. All candidates also undertake a dissertation using the extensive library, databases and placement facilities.

For further details write to Professor D A Peel (P3) Co-Director MBA Programme, University College of Wales Aberystwyth, Dyfed, SY23 3DB. Telephone (0970) 3111 Extension 3132, Telex 35181.

(74219)

UNIVERSITY OF ABERDEEN

CHAIR OF GENETICS

Applications are invited for the Chair of Genetics from candidates with a distinguished record in research and scholarship, particularly in the area of molecular genetics in science and medicine.

Further particulars and application forms from The Secretary, The University, Aberdeen AB9 1FX, to whom applications (2 copies) should be lodged by 14 March 1986.

(74200)

Heriot-Watt and Strathclyde Universities Aberystwyth

Man Machine Interaction Unit

As a part of the Man Machine Interaction Unit, the University of Strathclyde is seeking to appoint a Senior Research Officer to join the Operational Research and Statistics Group at RMCS which is one of the leading exponents of Military Operational Analysis in the United Kingdom. The successful applicant will have a number of years experience in the field and will be able to demonstrate a record of achievement in the development and/or use of combat models, in weapon assessment studies or in other relevant areas of military operational analysis. He/she will be expected to take over the leadership of existing research activities and to initiate further sponsored research activities in

Colleges of Further Education

LONDON BOROUGH OF NEWHAM
NEWHAM COMMUNITY COLLEGE
 Principal-designate:
 J.C.N. Baillo, MA, DipFE, FBIM, FRSA.
 Applications are invited for the following senior posts:

THREE VICE-PRINCIPALS

(Group 10)

HEAD OF RESEARCH, MARKETING AND STUDENT SERVICES UNIT

(Head of Department Grade V)

This new college will in September 1986 assume responsibility for the work of the present colleges of further, higher and adult education in East Ham and West Ham. It will be the major provider of both work-related and community education within the area, and will continue to offer significant opportunities for higher education. The new college aims to be fully responsive to community (including employer) needs and applicants from a variety of backgrounds within post-school education are looked for to create a strong management team. Applications from women, members of ethnic minority groups and persons with disabilities will be especially welcome.

Salaries in accordance with the Burnham (FE) Report, London allowance £1,038.

Further details and application forms (s.a.e. please) may be obtained from the Acting Director of Education to whom completed forms should be returned by 21 February 1986.

Acting Director of Education, Education Offices, 379/383 High Street, Stratford, London E15 4HD.

An Equal Opportunities Employer

Nene College, Northampton

Faculty of Mathematics, Management & Business

Applications are invited for the following posts:

Lecturer Grade 1 in Mathematics/Statistics

A lecturer with a degree or professional qualification in mathematics/statistics.

Lecturer Grade 2 in Law

A lecturer with a degree or professional qualification and preferably with teaching experience in law. Any specialist area of law will be considered.

Applicants for either post should have interests in teaching on courses associated with BTEC, management & professional courses and A level. Some teaching at degree level may be offered to suitable applicants.

For an application form and further details please send a SAE to The Dean, Faculty of Mathematics, Management & Business, Nene College, Moulton Park, Northampton NN2 7AL.

The closing date for applications is two weeks from the appearance of this advertisement.

Colleges and Institutes of Higher Education

Kent County Council Education Committee

Mid-Kent College of Higher and Further Education

DEPARTMENT OF ELECTRICAL AND ELECTRONIC ENGINEERING SENIOR LECTURER

(Ref No. 11)

A vacancy exists for a Senior Lecturer to teach electronics, microelectronics and allied subjects up to Higher National Diploma level.

Applications are invited from graduates who have both industrial and teaching experience.

Salary scale: £11,958-£14,048-£15,045

Further details and application form available from the Principal, Mid-Kent College of Higher and Further Education, Horsted, Maidstone Road, Chatham, Kent ME5 9UQ tel 0634 41001 to whom completed forms should be returned by Friday 14 February 1986.

West London Institute of Higher Education

Department of Creative & Performing Arts

Re-Advertisement

(Previous applicants who wish to be reconsidered should notify the Vice Principal)

SENIOR LECTURER IN DRAMA

Applications are invited for the above post which will commence on 1 April 1986 or as soon as possible thereafter. The successful applicant will be expected to lead a team of tutors concerned with the Modern Drama component of the B.A. Joint Honours (CMAA). The course combines practical and critical study. The post is particularly suited to those who can offer a special interest in theatre and current social and political issues and/or some aspect of modern American Drama.

Salary: £11,958-£15,045 plus £278 Outer London Allowance.

Closing date for receipt of applications: 14 February. For application form and further details please contact The Vice Principal, West London Institute of Higher Education, Uxbridge Road, Uxbridge, Middlesex, Ux8 3PH Tel: 0189 8141 (90880).

Royal County of Berkshire Principal Slough College of Higher Education

Group VIII

Salary: £26,022 inclusive of area allowance.

Applications are invited for this post tenable from 1st September 1986. The College is a major institution of higher education, providing a range of vocational advanced programmes appropriate to the thriving Thames Valley region.

For application forms and details please write to:

Clerk to the Governing Body
 Slough College of Higher Education
 Wellington Street
 SLOUGH SL1 1YG

Closing date: 14th February 1986

An equal opportunities employer

Slough College

S. MARTIN'S COLLEGE OF HIGHER EDUCATION LANCASTER

(Group 8)

VICE-PRINCIPAL

Applications are invited from suitably qualified and experienced persons for the post of Vice-Principal at this Church of England College of Higher Education from 1st September 1986.

Application forms and further details may be obtained from The Principal, S. Martin's College, Lancaster LA1 3JD

Application forms should be returned by 14 February.

S. Martin's College of Higher Education Lancaster

Two posts in Primary Education

Applications are invited from suitably qualified persons for the above posts from 1 September 1986. Applicants should have recent, successful experience in primary schools, and will be required to teach in a primary school in Lancashire as well as at the college. The successful candidates will be required to teach in a primary school in Lancashire as well as at the college. The successful candidates will be required to teach in a primary school in Lancashire as well as at the college.

Further details and application forms may be obtained from The Principal, S. Martin's College, Lancaster LA1 3JD. Completed applications should be returned by 14 February 1986.

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Research and Studentships

University of Liverpool

RESEARCH POST BASED AT HIGH WYCOMBE

Applications are invited for the post of Research Associate in the Department of Aeronautics and Astronautics Research Assistant.

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Research and Studentships continued

University of Liverpool

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Administration continued

COUNTY SECRETARY'S
DEPARTMENTSENIOR
ADMINISTRATIVE
OFFICER

SO1-£9,975-£10,638

Following internal promotion we are seeking a committee administrator to assist with Education, Public Protection and Libraries and Records Committees. We are looking for local government or related experience but would be prepared to consider applications from graduates (with a good honours degree) seeking a trainee position.

Further particulars and application form from Pat Waller/ David Parmiter on Lewes (0273) 476400, ext. 573 or write to The County Secretary, Pelham House, St Andrews Lane, Lewes BN7 1UN.

Closing date: February 14th.

(74220)

Announcements

To: All UK Educational Institutions
From: Organisers - 3rd HK Intl Education Fair
Subject: Scholarships for Hong Kong Students

A major promotion will begin during March this year to publicize Scholarships from the UK available to HK students. Publicity for this promotion will be done through all sections of the media and during the Education Fair to be held between March 8 - 11 1986. We invite your participation in this promotion. Please send full details of your Scholarships available to: The Organisers, HK Education Fair, 1525 Star House, Salisbury Rd, Hong Kong. Tel: 3-680093 Telex: 54492

Closing date for Scholarship details: Feb 15, 1986.

(74241)

Courses

Bachelor of
Science in
Command & Control,
Communications &
Information Systems

A new 3-year first degree course

Already a leader in its field of Military Science and respected by Defence establishments throughout the world, RMC Shrivenham now offers a new and unique 3-year BSc degree course in the Command & Control, Communications and Information Systems skills necessary for Defence Management.

Open to sixth-formers and Services candidates who can demonstrate good academic ability in several mainstream disciplines (not necessarily science-based), the course is designed to provide an excellent base for a wide variety of career opportunities in the management of information. Students may apply for a place in addition to their normal UCCA applications and it is possible that sponsorship will be offered to those with appropriate qualifications.

For further information and prospectus, please contact: The Academic Registrar, R.M.C.S. Shrivenham, Swindon, Wilts SN6 6LA. Tel: 0793 762351 ext. 3405.

Please send me full details BSc (THES)

Name

Address

Royal Military College of Science

SHRIVENHAM

University of
LancasterM.A.
IN CONTEMPORARY
LITERARY STUDIES

This new taught course will be offered in October 1986: 18 months full-time, 24 months part-time.

Information from: Tutor for Graduate Studies, Department of English Literature, University of Lancaster, Lancaster LA1 4YT. (0574) 514

REMINDER

ONLY FOR CLASSIFIED
ADVERTISEMENTS IN
THE T.H.E.S.
SHOULD ARRIVE NOT LATER THAN
10AM MONDAY
PRECEDING
PUBLICATION

Overseas

POSITION
ANNOUNCEMENT
TENURE TRACK

Assistant or
Associate Professor
Sloan School of
Management
Massachusetts Institute
of Technology

Position open starting Fall 1986 at the assistant or associate professor level in the area of macro-sociology/organization theory. Candidates should possess strong theoretical and methodological training in one of the behavioral sciences and should have a serious commitment to research and teaching.

Interested candidates should send a resume to Professor John Van Maanen, E52-588, Sloan School of Management, Massachusetts Institute of Technology, Cambridge, MA 02139.

M.I.T. is an equal opportunity employer and specifically invites and encourages applications from minorities and women.

MIT

Post
Overseas
China

Senior Materials Writer,
Department of Foreign Languages,
Shanghai, Jiaotong University

Duties: to work in a team producing English textbooks for non-English majors in Universities and Institutes of Science and Technology. Qualifications: candidates, aged over 30, must be British citizens holding a first degree and an MA in ELT. Several years experience including some materials writing and knowledge of EST.

Salary: local salary in the range of Yuan 800-1,200 per month plus annual sterling subsidy of £5,976 £1-4.8 Yuan).

Benefits: free accommodation, airfares, baggage allowance, installation grant, superannuation contribution.

Closing date for applications: 17 February 1986. Reference: 85 B 88 TH

For further details and an application form, please write, quoting the post reference number, to: Overseas Educational Appointments Department, The British Council, 90-91 Tottenham Court Road, London W1P 0DT.

The
British
Council

The Times
Higher Education
Supplement

Special Book Number

- | | |
|-------|--|
| Feb | 7 European Studies
14 Philosophy
21 Computer Studies (I)
28 History (I) |
| March | 7 Maths and Physics (I)
14 Social Policy
21 English |
| April | 4 Psychology (I)
11 Law
18 Environmental Sciences (Including Geography)
25 Sociology (I) |
| May | 2 Chemistry
9 American Studies
16 Economics (I)
23 Biological Sciences (I)
30 Education (I) |
| June | 6 Engineering
13 University Presses (Copies distributed at The Association of American University Press meeting June 15-18) |
| Oct | 3 Computer Studies (II)
10 History (II)
17 Maths and Physics (II)
24 Politics
31 Psychology (II) |
| Nov | 7 Economics (II)
14 Biological Sciences (II)
21 Sociology (II)
28 Environmental Sciences (Including Geography) (II) |
| Dec | 5 Education (II) |

Reviews of
Academic Journals

- | | |
|------|-----------------------------------|
| June | 13 Social Sciences and Humanities |
| Sept | 26 Sciences and Engineering |

Special Features

- | | |
|-------|--|
| March | 21 Management Education - a feature which will also include reviews of business and management books. (Copies to be distributed at The Association of Teachers of Management Conference March 24-26) |
| June | 20 Women's Studies (Copies to be distributed at the Second International Feminist Book Fair June 22-27) |
| July | 4 Industry and Higher Education |
| March | 14 |
| June | 27 Information Technology |
| Nov | 7 |

Overseas continued

SOUTH AUSTRALIAN
INSTITUTE OF TECHNOLOGY
SCHOOL OF
SOCIAL STUDIES

Applications are invited for the position of academic leader of the School of Social Studies situated at the North Terrace Campus, Adelaide. This position will be offered at the level of Professor/Associate professor or Principal Lecturer.

The School is responsible for teaching six courses: a four year Bachelor of Social Work, a two year Associate Diploma, a Graduate Diploma in Social Work Practice, and Graduate Diplomas in Educational Counselling, Health Counselling and Group Work. The School also provides subjects for other courses including Physiotherapy, Occupational Therapy, Radiography and Planning. Approximately 850 students are enrolled in the School on campuses at Adelaide and Whyalla. Masters programmes in Social Work and Counselling are being explored.

The School is committed to providing quality educational programmes for professional practice in the human services. Courses consist of a foundation of knowledge drawn from the behavioural and social sciences and skill development designed to equip students with the essential attributes to be competent practitioners. Current staff are drawn from a range of disciplines, including social work education, psychology, sociology, political science and health.

The successful appointee will have a distinguished record in the area of professional practice in the human services. Courses consist of a foundation of knowledge drawn from the behavioural and social sciences and skill development designed to equip students with the essential attributes to be competent practitioners. Current staff are drawn from a range of disciplines, including social work education, psychology, sociology, political science and health.

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The Council of the South Australian Institute of Technology is currently reviewing its policy on appointments of Heads of School on a permanent basis and is considering a system of rotating the administrative responsibilities associated with headship. For the present, however, the successful appointee would be expected to assume the existing roles of both the academic appointment and Head of the School responsibilities.

ANNUAL SALARY

At one of the following levels,
according to qualifications and experience
AUS\$48,387 \$53,088 \$54,948

Application forms, Conditions of Service and further information on the position may be obtained from Ms. Victoria J. Thomas, Appointments Officer, South Australian Institute of Technology, North Terrace, Adelaide, S.A. 5000 to whom all applications including the names and addresses of three referees should be forwarded as soon as possible.

(74221)

Post
Overseas
Romania

Lecturer in English,
University of Bucharest

Duties: to teach EFL to undergraduates and postgraduates, with some applied linguistics/ methodology.

Qualifications: candidates must be British nationals with a degree, preferably in English or Modern Languages, PGCE TEFL (or equivalent) and a minimum of three years' teaching experience. An MA in Applied Linguistics and some teacher training experience are desirable.

Salary: local salary. Additional sterling subsidy \$8,764 per annum paid in Britain.

Benefits: free or subsidised accommodation, medical scheme, superannuation contribution, fares and baggage allowance.

Contract: March 1986 or asap to August 1987, renewable, guaranteed by the British Council.

Closing date for applications: 20 February 1986.

Reference: 85 B 87 TH

For further details and an application form, please ring or write, quoting the post reference number, to: Overseas Educational Appointments Department, The British Council, 90-91 Tottenham Court Road, London W1P 0DT. Tel: 01-880 6872 ext. 87.

The
British
Council

UNIVERSITY OF MALAWI
STAFF VACANCY: UNIVERSITY OF
MALAWI LIBRARIES

Applications are invited for the post of Assistant Librarian in the University of Malawi Libraries, tenable from a date to be arranged. The appointment will be made initially in the area of Reader Services and later in the area of Cataloguing or Staff Training.

Applicants should have a higher degree or postgraduate diploma in librarianship or information science. Experience in bibliographic instruction and in the planning and implementation of library automation is highly desirable. The ability to lead a large team of library assistants and to communicate effectively with colleagues at all levels is essential.

Initial salary will be in the range of K5,689-K6,174; K6,070-K11,445.

Part-furnished accommodation will be provided at 10% of basic salary, as well as the usual benefits for those employed on contracts (initially, two years), including air passage, medical expenses, educational allowances, and a tax-free gratuity.

Four copies of a detailed Curriculum Vitae containing full particulars of qualifications and experience, plus the names and addresses of three referees, should be sent to the Registrar, University of Malawi, P.O. Box 278, ZOMBA, by 26 February 1986.

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